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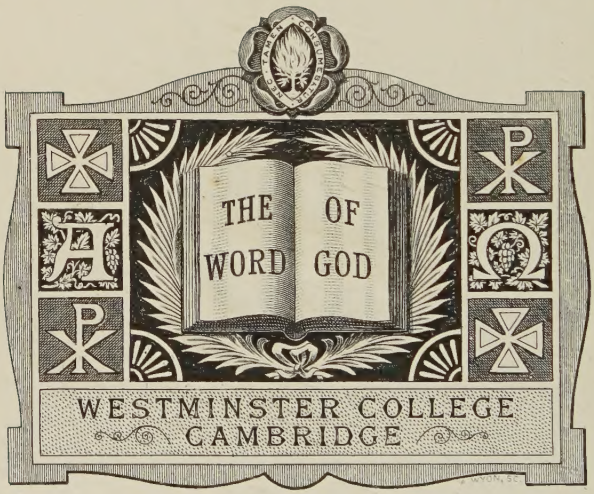

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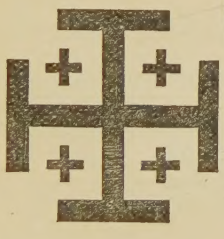
PALESTINE EXPLORATION FUND.

Patron—THE QUEEN.

Quarterly Statement

FOR 1896.



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THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS.

Owing to an unusually favourable season, the excavations at Jerusalem were still being carried on up to December 8th, when the last reports were despatched by Dr. Bliss.

It will be remembered that the Committee had requested that a section should be cut on the side of the hill northward from near the point where "Inferred Tower" is marked in the plan published in the *Quarterly Statement* for January last. This led to the discovery of another wall lying under that previously reported at this spot (*see Quarterly Statement*, October, 1895, p. 319), and subsequently of a series of strongly-built chambers, whilst further north a very remarkable tower was found and examined.

Still further north a mosaic pavement was discovered, of which a beautiful plan and coloured drawing have been forwarded by Mr. Dickie.

The strictest economy is employed in carrying out these most interesting works, but the expenses are necessarily great, and there is very urgent need of funds in order that the excavations may be continued whilst the opportunity lasts.

The following circular letter has been addressed to subscribers to the Palestine Pilgrims' Text Society:—

Palestine Pilgrims' Text Society,
24, Hanover Square, London, W.,
November 14*th*, 1895.

Dear Sir,

The work of the Palestine Pilgrims' Text Society has now very nearly reached its conclusion. With the exception of four small works the whole of the pilgrims' texts enumerated in the original prospectus have been accounted for and issued to members. The remaining works will be issued as soon as possible. The price of the whole library of twelve or thirteen volumes when complete will be fixed at ten guineas.

We have therefore made arrangements with the Committee of the Palestine

Exploration Fund for the winding up of the Society on the following terms and conditions :—

(1) That any member who wants to complete the Library of Pilgrims may do so, provided he writes to Mr. George Armstrong, Acting Secretary of the Palestine Exploration Fund before the end of the year, paying the difference between his subscription and ten guineas.

(2) At the end of the year, the copies that remain will be taken over by the Palestine Exploration Fund.

(3) During the next year the four works still remaining will be issued and given to the members of the Palestine Pilgrims' Text Society without any further charge.

(4) The stereos will be destroyed, and no further copies will be printed. The Edition is therefore very small, and it is believed that the value of the books will rapidly go up. The Palestine Exploration Fund undertake only to sell complete sets and not to let any copies go under the full price of £10 10s. each; they also reserve the right of increasing the price, if there is a demand for the work.

I remain, dear Sir,
Your obedient servant,
C. W. Wilson,
Chairman of the Council.

The Reverend Theodore E. Dowling, Hon. Sec. of the Jerusalem Association, reports that arrangements have been made for a Course of Six Saturday Evening Lectures in Jerusalem during the approaching tourist season, as follows :—

Date.	Hotel.	Name.	Subject.
February 22 ...	Grand New Hotel	Dr. M. Sandreczky ...	The Crusading Kingdom of Jerusalem.
,, 29 ...	Howard's Hotel ...	Rev. C. T. Wilson, M.A. ...	The Fellahîn.
March 7 ...	Grand New Hotel	F. J. Bliss, Esq., Ph.D. ...	Recent Excavations.
,, 14 ...	Howard's Hotel ...	Frank T. Ellis, Esq. ...	The South Wall of Jerusalem.
,, 21 ...	Grand New Hotel	P. D'Erf Wheeler, Esq., M.D., F.R.C.S.E., F.R.G.S.	The Jews in Jerusalem.
,, 28 ...	Howard's Hotel ...	F. J. Bliss, Esq., Ph.D. ...	The Mounds of Palestine.

The Dominican Fathers at Jerusalem have also arranged for a series of lectures during the winter on archæological subjects connected with the Holy Land.

The first part of Vol. II of דער קאלאניסט ("Der Colonist")—published by Luncz of Jerusalem—is printed throughout in Hebrew characters, but is written partly in jargon, partly in Hebrew. It is a useful handbook for colonists in the Holy Land. It opens with a strong argument in favour of the view that

agriculture in Palestine may be made self-supporting. Next we have an account of the twenty-fifth anniversary of the colony מקוה ישראל and reports from other colonies. Then a jargon article on the "Esrog-boim" (= the citron tree), others on how to keep and rear poultry, on the cultivation of the fig-tree, on the diseases of the vine and their cure, on the possibility of producing silk—a more hopeful picture than previously is drawn here. At the end comes "Latest Intelligence" (in Hebrew). From this it appears that the harvests last year were exceptionally good in all the colonies.—"Jewish Chronicle."

The "Jewish Chronicle" remarks that Mr. James Glaisher's "Results of Meteorological Observations Taken at Jerusalem in the Year 1889" should be carefully studied by all friends of Palestine colonisation.

Photographs of Herr von Schick's models (1) of the Temple of Solomon, (2) of the Herodian Temple, (3) of the Haram Area during the Christian occupation of Jerusalem, and (4) of the same locality as it is at present, have been received at the office of the Fund. Sets of these photographs, with an explanation by Herr von Schick, can be purchased.

The following note on the Site of Ophir is from the "Jewish Chronicle," September 27th, 1895 :—

"A new light has been thrown upon our guesses after the site of the district of Ophir, mentioned in the Scriptures as rich in gold, precious stones, ivory, and birds of beautiful plumage. It has generally been supposed that it lay in India, and that it was from that part of the world the ships of King Solomon, as well as those of the King of Tyre, brought these treasures which enriched their cities. No less an authority than Dr. Carl Peters has been persuaded by documents which have recently come under his eyes that not India, but Africa, must be credited with the bountiful supply alluded to in the Bible. Dr. Peters has published the result of his research, which is based on an historical atlas recently discovered by him. It was printed at Amsterdam in the first decade of the eighteenth century, and once more lends force to the adage that there is nothing new under the sun. The information conveyed to us by this atlas proves that its compiler was at that time in possession of much knowledge respecting Africa, which we flatter ourselves to have been discovered at the latter half of the nineteenth century, but which is nearly 200 years old. We know that the Portuguese had flourishing colonies on the Congo and Zambesi rivers in the seventeenth century, and it is now clear that they knew a great deal about the districts in which they had settled, else such maps as those now reprinted for us by Dr. Peters could never have been produced. How the knowledge came to be locked up so long is one of the strange freaks of history which we have paid dearly with money and loss of life spent in our latest African explorations. With the decline of the Portuguese power in the 'dark continent,' their geographical knowledge seems to have been buried and has now come to light again only to be shown up as correct in the light of modern explorations. The old Dutch Atlas divulges an early knowledge of the east and south-west

coasts of Africa, of the courses of the Rivers Congo and Zambesi and other neighbouring streams, of the dwarf tribes Akka, and of the great forest in the north-western bend of the Congo. Moreover, this historical atlas speaks of the great treasures found in the Zambesi country—gold, jewels, and fine animals, and even goes so far as to indicate the sites of special gold mines. These are, doubtless, the ancient dominions of Mono-Mueni of Simbaoë, of which the ruins were recently found. Dr. Peters is firmly of opinion that these ruins are of Phœnician and Sabaian origin, and that here also was situated the *Ophir* mentioned in the Old Testament. He goes so far as to suggest that the three Hebrew consonants אפר probably contain the root of the word *Afr*, to which the Latin ending *ica* was afterwards added. He argues further that this was a far more likely place for the ships of petty Asiatic princes to be allowed to land and take any treasures at will than India, which was at that time a consolidated State. The Portuguese went at will and carried any gold and precious stones as they pleased, and it is not unlikely that so for a time did Solomon and Hiram."

Tourists are cordially invited to visit the Loan Collection of "Antiques" in the Jerusalem Association Room of the Palestine Exploration Fund, opposite the Tower of David. Hours: 8 to 12, and 2 to 6. Maps of Palestine and Palestine Exploration Fund publications are kept for sale. Necessary information will be gladly given by the Rev. Theodore E. Dowling, *Hon. Sec.*

The Committee have to acknowledge with thanks the following donations to the Library of the Fund:—

"Biblical Proper Names, Personal and Local, Illustrated from Sources external to Holy Scripture."

"Recent Egyptological Research in its Biblical Relation."

"Biblical Criticism."

"On the Names of the List of Thothmes III which may be assigned to Judæa."

"Notes on the Hyksôs or Shepherd Kings of Egypt."

"Recent Advances in Biblical Criticism and in Historical Discovery in their Relation to the Christian Faith."

"Studies in the Geography of Western Asia." From the author, the Rev. Henry George Tomkins.

"Bulletin de Correspondence Helléniques." Paris, 1895. From the publisher.

The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and other Bible Lands. *See* list of Books, July *Quarterly Statement*, 1893.

The following have kindly consented to act as Honorary Local Secretaries:—

Rev. (Commander) L. G. A. Roberts, in addition to the Rev. Henry George Tomkins, Weston-super-Mare.
Rev. R. C. W. Raban, Bishop's Hall Vicarage, Taunton.
W. S. Furby, Esq., Auckland.

Sir Walter Besant's summary of the work of the Fund from its commencement has been brought up to date by the author and published under the title, "Thirty Years' Work in the Holy Land." Applications for copies may be sent in to Mr. Armstrong.

Mr. George Armstrong's Raised Map of Palestine is on view at the office of the Fund. A circular giving full particulars about it will be sent on application to the Secretary.

The first edition of the new Collotype Print, from a specially prepared copy of the Raised Map, is nearly exhausted, and a second and cheaper issue has been prepared. Price to subscribers, 2*s.* 3*d.*; non-subscribers, 3*s.* 3*d.*, post free.
The print is on thin paper, measuring 20 inches by 28½ inches.

Index to the *Quarterly Statement.*—A new edition of the Index to the *Quarterly Statements* has been compiled. It embraces the years 1869 (the first issue of the journal) to the end of 1892. Contents:—Names of the Authors and of the Papers contributed by them; List of the Illustrations; and General Index. This Index will be found extremely useful. Price to subscribers to the Fund, in paper cover, 1*s.* 6*d.*, in cloth, 2*s.* 6*d.*, post free; non-subscribers, 2*s.* and 3*s.*

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., every week-day except Saturdays, when it closes at 2 p.m.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

The first portion of M. Clermont-Ganneau's work, "Archæological Researches in Palestine," is translated and in the press, and will be published shortly.

Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The income of the Society, from September 23rd to December 23rd, 1895, was—from annual subscriptions and donations, including Local Societies £616 7*s.* 8*d.*; from all sources—£829 4*s.* 5*d.* The expenditure during the same period was £784 17*s.* 9*d.* On December 23rd the balance in the Bank was £266 18*s.* 2*d.*

Subscribers are requested to note that the following cases for binding, casts, and slides can be had by application to the Assistant Secretary at the Office of the Fund:—

Cases for binding Herr Schumacher's "Jaulân," 1*s.* each.

Cases for binding the *Quarterly Statement*, in green or chocolate, 1*s.* each

Cases for binding "Abila," "Pella," and "'Ajlûn" in one volume, 1*s.* each.

Casts of the Tablet, with Cuneiform Inscription, found at Tell el Hesy, at a depth of 35 feet, in May, 1892, by Dr. Bliss, Explorer to the Fund. It belongs to the general diplomatic correspondence carried on between Amenhotep III and IV and their agents in various Palestinian towns. Price 2*s.* 6*d.* each.

Casts of the Ancient Hebrew Weight brought by Dr. Chaplin from Samaria, price 2*s.* 6*d.* each.

Casts of an Inscribed Weight or Bead from Palestine, forwarded by Professor Wright, Cambridge, Mass., U.S.A., price 1*s.* each.

Lantern slides of the Raised Map, the Sidon Sarcophagi, and of the Bible places mentioned in the catalogue of photos and special list of slides.

In order to make up complete sets of the *Quarterly Statement* the Committee will be very glad to receive any of the back numbers.

While desiring to give publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

Subscribers who do not receive the *Quarterly Statement* regularly are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

The authorised lecturers for the Society are—

The Rev. Thomas Harrison, F.R.G.S., The Vicarage, Appledore, Ashford, Kent. His subjects are as follows:—

(1) *Research and Discovery in the Holy Land.*
(2) *Bible Scenes in the Light of Modern Science.*
(3) *The Survey of Eastern Palestine.*

(4) *In the Track of the Israelites from Egypt to Canaan.*
(5) *The Jordan Valley, the Dead Sea, and the Cities of the Plain.*
(6) *The Recovery of Jerusalem—(Excavations in* 1894).
(7) *The Recovery of Lachish and the Hebrew Conquest of Palestine.*
(8) *Archæological Illustrations of the Bible.* (Specially adapted for Sunday School Teachers).

N.B.—All these Lectures are illustrated by specially prepared lantern slides.

The Rev. J. R. Macpherson, B.D., Kinnaird Manse, Inchture, N.B. His subjects are as follows :—

(1) *Excavations in Jerusalem,* 1868–70, 1894–5.
(2) *Lachish, a Mound of Buried Cities ; with Comparative Illustrations from some Egyptian Tells.*
(3) *Recent Discoveries in Palestine—Lachish and Jerusalem.*
(4) *Exploration in Judea.*
(5) *Galilee and Samaria.*
(6) *Palestine in the Footsteps of our Lord.*
(7) *Mount Sinai and the Desert of the Wanderings.*
(8) *Palestine—its People, its Customs, and its Ruins.* (Lecture for Children.)

All illustrated with specially prepared lime-light lantern views.

The Rev. James Smith, B.D., St. George's-in-the-West Parish, Aberdeen. His subjects are as follows :—

(1) *The Palestine Exploration Fund.*
(2) *A Pilgrimage to Palestine.*
(3) *Jerusalem—Ancient and Modern.*
(4) *The Temple Area, as it now is.*
(5) *The Church of the Holy Sepulchre.*
(6) *A Visit to Bethlehem and Hebron.*
(7) *Jericho, Jordan, and the Dead Sea.*

The Rev. J. Llewelyn Thomas, M.A., Aberpergwm, Glynneath, South Wales. His subjects are as follows :—

(1) *Explorations in Judea.*
(2) *Research and Discovery in Samaria and Galilee.*
(3) *In Bible Lands ; a Narrative of Personal Experiences.*
(4) *The Reconstruction of Jerusalem.*
(5) *Problems of Palestine.*

The Rev. Charles Harris, M.A., F.R.G.S., St. Lawrence, Ramsgate. (All Lectures illustrated by lantern slides). His subjects are as follows :—

(1) *Modern Discoveries in Palestine.*
(2) *Stories in Stone ; or, New Light on the Old Testament.*
(3) *Underground Jerusalem ; or, With the Explorer in* 1895.
Bible Stories from the Monuments, or Old Testament History in the Light of Modern Research :—
(4) A. *The Story of Joseph ; or, Life in Ancient Egypt.*

(5) B. *The Story of Moses; or, Through the Desert to the Promised Land.*
(6) C. *The Story of Joshua; or, The Buried City of Lachish.*
(7) D. *The Story of Sennacherib; or Scenes of Assyrian Warfare.*
(8) E. *The Story of the Hittites; or, A Lost Nation Found.*

Professor Theodore F. Wright, Ph.D., 42, Quincy Street, Cambridge, Mass., Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

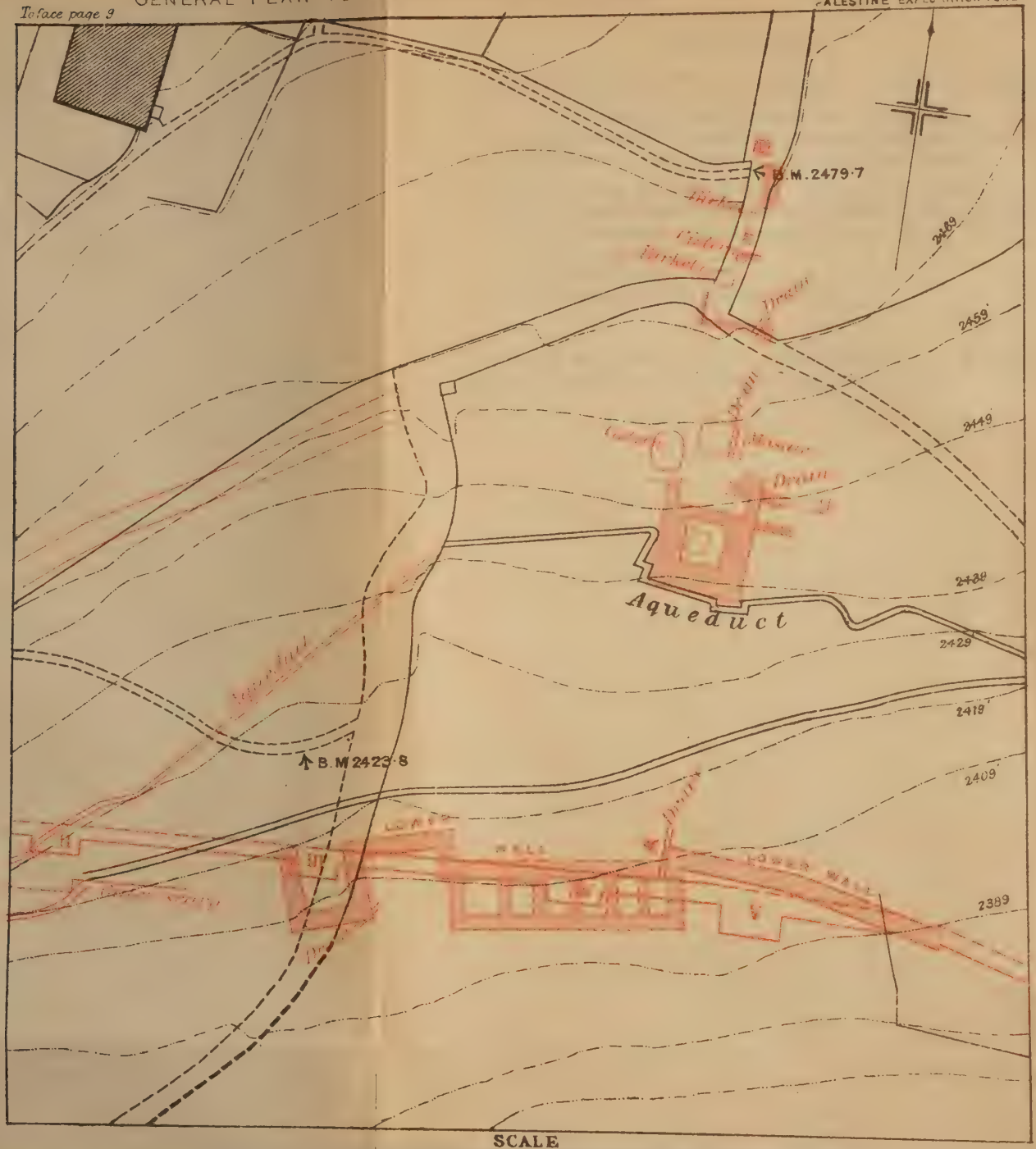
(1) *The Building of Jerusalem.*
(2) *The Overthrow of Jerusalem.*
(3) *The Progress of the Palestine Exploration.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

To face page 9

General Plan to Illustrate the Excavations at Jerusalem

PALESTINE EXPLORATION FUND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Lower Wall

SEVENTH REPORT ON THE EXCAVATIONS AT JERUSALEM.

By F. J. Bliss, Ph.D.

At the close of my last report I mentioned that we had already begun the north and south section of the western hill, which the Committee desired to be made from a point somewhat east of what is marked as "Inferred Tower" on the January plan to B.M. 2479.7, on the road coming from Bâb Neby Daûd. I shall call this Section AB. It will be remembered that our systematic following of the wall from the Protestant Cemetery to the east was interrupted by a field, 14 feet beyond Tower III, with whose proprietor we failed to come to terms, though in a single day of work the wall was seen at two points along the same line respectively 54 and 112 feet distant from Tower III. We resumed the systematic tracing of the wall in the "cauliflower patch" at a point 320 feet distant from Tower III (along the inferred line), and thus 208 feet beyond the last point seen in the forbidden field. The masonry in the "cauliflower patch" consisted of strong foundation rubble of large and small stones, in some parts set in courses, resting on the rock. No dressed masonry was found till we got to the tower near the Jewish Cemetery. The drafted stones seen there were again observed when we picked up the wall where it emerges from the other end of the cemetery, and also at every place where it was seen between this point and the Pool of Siloam. This drafted work was in contrast to the smooth masonry seen all along the line from the fosse near tower at Protestant Cemetery, to the point in the "forbidden field," 112 feet from Tower III. There was one important exception, however, at Tower I (at the south-west angle of the old city), where the later work is built on a somewhat different line from that of its substructure of rough drafted masonry. The rough foundations seen after the interruption evidently belonged to the line of what I may call the drafted wall traced to the east. As to the smooth wall, I thought that it followed the line of the earlier wall (which it was seen to touch at Tower I) as far as where it was last seen, 112 feet east of Tower III, and then it might have swung to the north-east to enclose the upper city, or it might have continued to follow the old line to the south-east, where the latter was only repaired.

The "forbidden field" was thus recognised as a critical point, and I was very glad when at last we came to satisfactory terms with the proprietor, and our tents were pitched under his olive trees. The object of the Section AB was to lay bare the rock, studying all walls and scarps that might cross the line. At the same time, I wished to determine the course of the "smooth wall." As mentioned in my last report, a tower was found just where it had been inferred, which becomes Tower IV :

70 feet to the east was found Tower V, which projects 16 feet from the wall, whereas Towers II, III, and IV project only 9½ feet. As all the other towers are 120 feet apart, the short distance of 70 feet between Towers IV and V led me to hope for a gate, especially as the point midway between them is in a continuation of the line of the road from the Damascus Gate. Unfortunately, exactly at this point the good masonry coming from the west, and seen along the *inside* line, is broken off, only the foundation rubble remaining. A drain coming from the north, 3 feet 9 inches high, 2 feet 3 inches broad at its cemented bottom and 1 foot 8 inches broad at the top, is here ruined at the junction with the wall. This was an encouraging clue, as we hoped the drain might run under a paved road, but the search for this was vain. Hence the question of a gate here must remain a moot point: in favour of it are the nearness of the towers and the position of the drain, together with the smooth *inside* face seen here, a point also noted for a few feet north of the gate on this same line to the north-west, but not beyond. Against it is the fact of another gate only 180 yards distant from this point, measured along the line of wall. As the rubble foundations, which consist of large and small stones roughly laid in strong mortar, here rest on *débris*, it is 14 feet thick for strength, the main wall being only 9 feet. The rubble was traced to the west outer angle of Tower V, when the smooth masonry again appeared, and was traced with more or less interruption, where the wall had been robbed of stones, around the rest of the tower and 16 feet beyond on the line of wall to the point L,[1] 50 feet from the foundation wall in the cauliflower patch (M)[1] to which it was directly pointing. The identity of the two thus seemed clear, but to exhaust all possibilities I trenched the ground from the point M for some 70 feet to the north-west, finding no sign that the smooth wall had altered its course. This may seem a roundabout way of arriving at a conclusion which could have been reached by connecting the two points, but those 50 intermediate feet of land belong to an unpleasantly small proprietor, whom it would not have been economical to tackle.

I remarked at the end of my last report that in this field the smooth wall did not rest on the rock but on rough rubble built on several feet of *débris*, which covered the ruined top of a massive older wall resting on the rock, running in a somewhat different line. This latter was first struck in Shaft 3, sunk along the inner face of the smooth wall, as a commencement of the Section AB. It was then followed to the east and west with the following results.

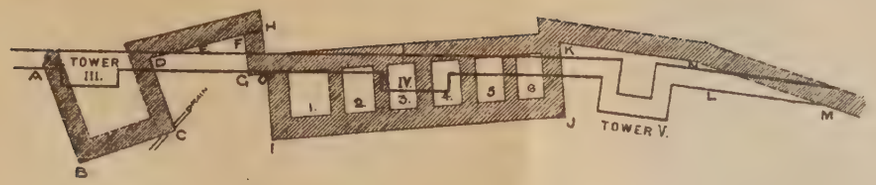
To the east it was pushed to N, where only rude foundation work occurred similar to that seen last year at M, to which it was generally pointing. As to the identity of the two there can be no doubt. To the west the masonry was followed to the corner, B, and then 12½ feet towards A, where it butts up against the rock, which has been stepped up to carry on the now-destroyed masonry to A, where Tower III of the

[1] These letters refer to the key plan, Pl. I.

DENOTES UPPER WALL

LOWER WALL

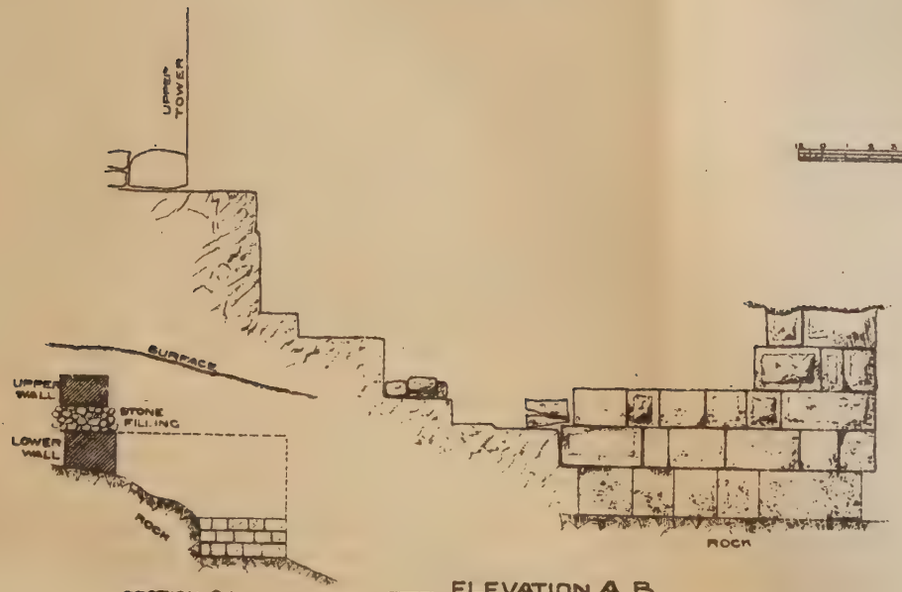
EXCAVATIONS AT JERUSALEM



KEY PLAN

ELEVATION C.D

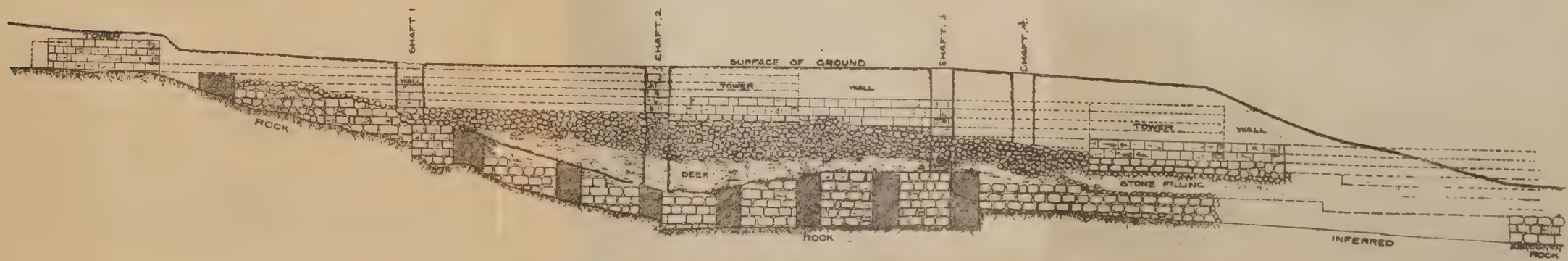
SCALE FOR MASONRY



SECTION O.I.

ELEVATION A.B.

ELEVATION B.C.



DEVELOPED SECTION FROM A. TO M.

SCALE FOR SECTIONS

Excavated by F. J. Bliss.
Measured drawn by Arch. C. Dickie.
18. XII. 95

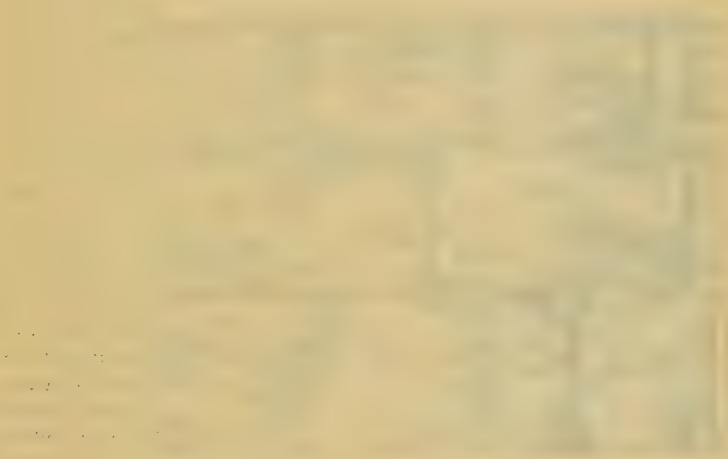
upper line rests upon the rock. Here, plainly, the two lines coincide. They have also been seen to coincide at Tower I. Between Towers I and III the rock is not far from the surface. The inference thus is that between Towers I and III the older wall was ruined to the rock, or perhaps to the lowest course of stones noticed in my third report, and that the later line followed the earlier between these two points. At A the earlier line runs out to form the Tower ABCD, but the later builders carried their wall on straight, and finding the rock deeper as they went east disregarded the old line of wall, sometimes resting their rubble foundations upon it, as seen in Shaft 1 on the developed section from A to M, Pl. I, and sometimes merely on the *débris* with which the old wall was buried, as seen at Shafts 2 and 4. At the point M the rock is nearer the surface, and here the later builders again ran on to the old line, as we have proved above. The absence at tower near Jewish Cemetery and on to Siloam of the smooth masonry, characteristic of this upper line, may be explained in two ways: either the old wall was in such good preservation that it needed only to be repaired, the smooth stones of the reparation having since disappeared, or else the later line again diverged from the older in a north-easterly direction, somewhere east of the point M. This point could only be settled by an examination of the old wall, beyond the point M, along its inside face, which would be impossible did the divergence take place in the Jewish Cemetery. The absence, beyond Tower V, of towers at short intervals, characteristic of the later line, is certainly curious.

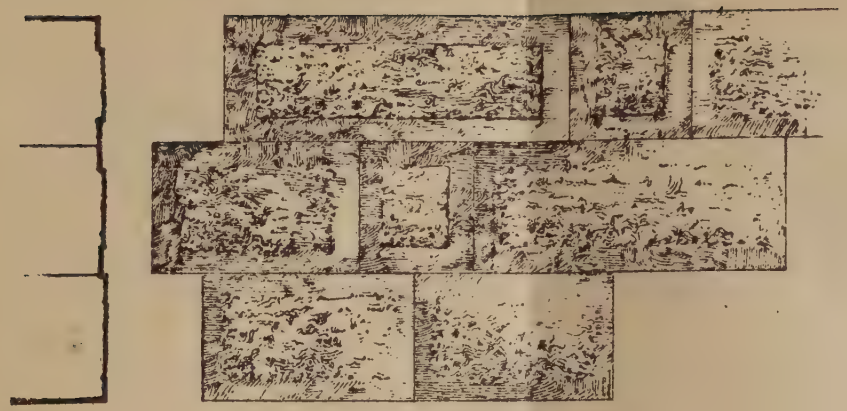
We may now study the lower or older wall from A to M, the points between which the upper or smooth wall runs on another line. (*See* key plan, sections, and elevations, Pl. I.) After forming the Tower ABCD the line runs north-north-east to F, then breaks out to G, and resumes the former direction to K. Projecting from the wall, GK, is a series of six chambers. Their length is 21 feet, with the exception of No. 2, which is 2 feet longer, owing to a recessing of the back wall. Chambers 2 to 6 vary in breadth from 12 feet 2 inches to 13 feet 6 inches, while No. 1 is 17 feet broad. The division walls are not bonded into the back wall, but run back into it. In place six courses of the back still remain, the masonry of which (*see* specimen at OK) is similar to that of the divisions, and consists of hammer-dressed stones, roughly squared and badly set, with a few bossed stones interspersed. A vain but thorough search was made along this back wall for doors to the chambers. As the rock bottom is rough and slopes rapidly to the south (*see* Section OI), the inference is that the chambers are ruined to their cellarage. Of the front wall, IJ, only one to three courses remain, varying from 24 inches to 29 inches in height. The stones, which are set in mortar, are roughly squared with quarry-picked faces, comb-picked at the edges, but this wall presents a decidedly smoother face than the back wall, as may be seen by comparing specimens at IJ and OK. The corner stone at I is drafted and better worked. The lowest corner is set on 18 inches of rubble bedded on lime and ashes. It is 8 feet 6 inches thick, the back wall being somewhat more. It does not

stand on a scarp, and a tunnel driven on the sloping rock for 30 feet south showed no sign of scarp or rock-hewn ditch.

This system of projecting chambers, clear now as it appears on the plan, puzzled us for a long time. We first struck the back wall behind Chamber 6 and then found its east wall. It looked as if we had found a tower, but whether we were inside or outside of it was not clear, as the inside face of the front wall of the chamber-system was here ruined. In the meantime, in Shaft 2 we had again struck the back wall and the west wall of Chamber 3, and worked our way to the west wall of Chamber 2. We then pushed westwards along the back wall from Chamber 6. I have explained how the division walls were let into the back wall; that between Chambers 5 and 6 was so ruined that we took the straight joints in the back wall to represent a filled-in gateway, and pushed on till we came to the division between Chambers 3 and 4. The idea of the series of projecting chambers occurred first to Abu Selim, who proposed to establish this hypothesis for that of the towers. Accordingly we re-examined the supposed gateway, which turned out to be the letting in of a division wall, broken off at the junction but running south in one foundation course. In the same way we traced the much-ruined division between Chambers 4 and 5. The wall IJ was then looked for, and found in front of the Chambers 1, 2, 3, and 6. At J the ruin was complete, though the wall KJ was traced for some distance south. But that the point J is the true outer angle of the chamber-system is proved—(1) by the altered direction of the main wall from K on; (2) by the fact that in tracing it 50 feet to N no more division walls were found; and (3) by the fact that the wall KJ is more massive than the division walls, being 7 feet thick, similar to OI.

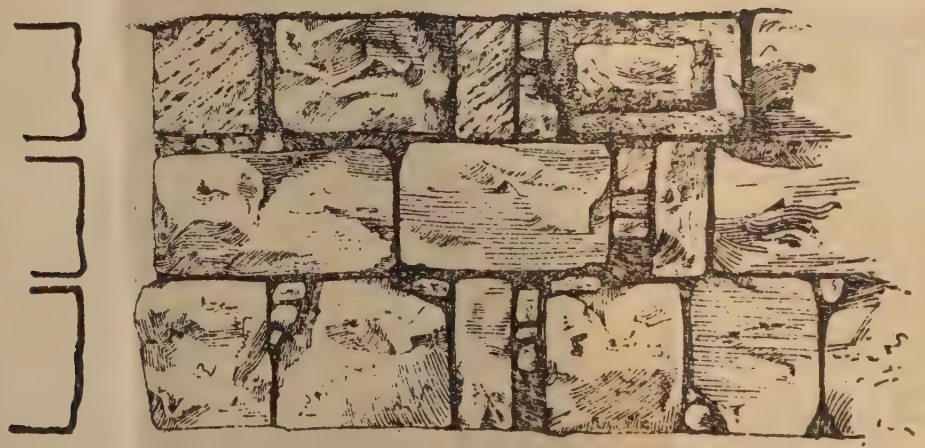
There was some difficulty in finding the corresponding west wall, OI. We were led astray by a later wall which seemed to belong to Chamber 1, as it ran south from the back wall, appearing to give 13 feet as the breadth of that chamber. But from the very first it looked suspicious, as it was only 4 feet 6 inches thick (the other divisions averaging 6 feet), and instead of showing the massive rough masonry of the divisions, it consisted of small rubble, bedded in mortar, standing to a great height and having a distinct batter. The men nicknamed it the "sheep-fold wall." Moreover, the wall against which it butted up could not be the expected wall IJ, as it was only 4 feet wide, and its outer face occurred 3 feet inside the point which IJ should cut. Again, these walls were 3 degrees off the axis of the building. This "sheep-fold wall" started on the rock, but the caving in of the very loose *débris* banked against its battered face prevented our following it on the rock along its length. Sinking to the rock at the end of our tunnel, we found the true wall IJ, in the expected position and direction. Pushing a few feet further west we found a straight joint between the wall IJ and the south wall of the "sheep-fold" system, which, no longer having the wall IJ for its foundation, had sunk to the rock and continued west. Breaking through this wall at the corner I of older wall OIJ, we followed the latter north for 15 feet, where it butts up





SPECIMEN AT D.

SPECIMEN AT I. J.



SPECIMEN AT O.K.

SCALE FOR MASONRY.

Executed by F. J. Bliss.
Master drawn by Chas. G. Duntz.
N. XII. 95

against the rock and runs out (as shown in Section OI). This accounts for our not having seen it when tracing the main wall west from G, but the points of former junction are clearly marked. What I have called the "sheep-fold" system of later walls is omitted from the plan to avoid confusion, as it has no organic connection with the city wall.

The part of the wall OGF presents a decided patchwork; a large stone similar to the great stones at the Jewish Wailing Place has been cut down and inserted, together with Roman column bases. As DF runs to the back of FG, the true line, from the outer corner I, may once have run back to H, which thus would have been the original inner angle, OGF being an alteration of the line. The masonry along the length EF is similar to the work at IJ, which helps the theory. But at E a straight joint occurs with rough rubble on to D, which is not bonded into the wall CD. The position of DF naturally suggests the ingoing of a gateway, and careful search for this was made. The rock along the base of DF is sloping and irregular; breaking in at E we followed the wall to east and west, finding it in places in its natural rough condition, in others cut as for quarrying stones, with a scarp 6 feet high, no sign of gate or roadway being visible. The inference was that there never was a gate-opening here at the level of the rock at the base of DF, and, if an opening had ever occurred at a higher level, all traces had been destroyed by the upper wall, which here ran over the lower.

The three sides of the Tower ABCD are drawn in elevation. Three periods are distinctly recognisable on the east side. From D for 10 feet we have the most beautifully set work we have observed in our excavations (*see* Specimen at D). The fine rubbed jointing can be compared only to the work at the Jewish Wailing Place. No mortar is used. The stones are perfectly squared, the broad margins are worked fine and smooth, while the centres are chisel-picked. The courses are 23½ inches high.

Where this fine work is ruined there is bonded into it rougher set masonry of an entirely different character; three styles of dressing are observed—(1) rough quarry-picked stones as at IJ, Pl. II; (2) stones with rustic bosses like the work figured on p. 245 of the July *Quarterly*; and (3) fine-picked stones with comb-margins, evidently re-used from the original wall which still remains at D. After continuing 21 feet this masonry ends in a straight joint beyond which there is a later extension of the face. The drain, which is cut in two by this new face, belongs to the earlier period. The masonry of this fresh face does not differ in character from the work just described and continues to the corner B, where it is set forward 6½ inches from one course of stones, whose dressing and fine setting are exactly similar to the work at D. As at the other end we saw the corners of the second and third periods, so here we see the corners of the first and third periods. Whatever the line of the earliest face may have been, this projection of the latest work is evidently due to the desire to make the face square with the sides of the tower.

On the west side the masonry continues a distance of 12½ feet, beyond which it is ruined, but the carefully stepped-up rock shows how the wall had been carried up to the point where the upper line diverged from it.

This lower wall, which we have been describing in detail from A to N, while evidently a continuous line, has shown us several styles of masonry, and we may now recapitulate these with a view to asking: Which style should be taken as characteristic?

The work at KN is only rough foundation, similar to that at M, without indication of the style of superstructure. The back wall, OK, is also rough foundation. FGO is patchwork. DE is filling in. Hence for the original work we must look to the outer wall, OIJK, of the chamber-system which presents one style, similar to EF and to the Tower ABCD. The stones of the wall, OIJK, present a comparatively smooth face, being well set, but are quarry dressed and roughly squared. Though certainly *in situ*, as the wall here must have been extremely lofty, the three courses left may not represent the character of the upper part of the wall. The original masonry of the Tower ABCD is indicated by bits at D and B. In the two periods of reparation there have been used (1) stones from the original masonry of the tower, (2) quarry-picked stones such as appear at IJ, and (3) bossed stones which characterise this same wall from the Jewish Cemetery south-east to the gate near Siloam and on as far as traced. Hence, if any conclusion can be drawn from these *data* it would seem that the earliest work we have seen on the continuous line of wall between the Protestant Cemetery and Siloam is at D and B, and at OIJK. How the fine jointing of the former corresponds to that of the Jewish work at the Haram area I have pointed out before.

A word as to the relation of this lower line to the upper line. The layer of accumulated *débris* between the ruined top of the lower wall and the rubble foundations of the upper wall, as seen in the Section AM, between Shafts 1 and 4, shows that between the periods of the two walls there intervened a time when no city wall existed at this point. This indicates such an extended interruption in the life of the city as history shows no example of, except after the destruction by Titus. Hence it seems a natural hypothesis to refer the lower wall to Jewish times and the upper wall to the Roman or Christian periods. The former certainly ran down to Siloam, while the course of the latter is not certain beyond the point M.

These few pages may not have given, at first reading, an idea of the magnitude of the labour expended in attaining the above results. The reader must look between the lines. He must note that the brief sentence, "a vain but thorough search was made for doors along the back wall," indicates a tunnel 25 feet long. The length of shafts and galleries worked in this excavation amounts to about a quarter of a mile. Using only part of the stones which were exhumed, the proprietor was able to construct a wall to his premises 150 feet long, 4 feet high, and 4½ feet wide. Many of the stones had to be broken up in the tunnel so that they might be hauled up a shaft 40 feet to the surface. Hence the work progressed slowly along the line GK, where the *débris* consisted mainly

of large stones, which were dislodged with great skill by Abdallah, our best quarryman, who managed to keep his tunnel perfectly safe. Again the work was very difficult along the front wall IJ, for this had been quarried for stone and the loose shingle sometimes ran like water. The stones of the upper line west of Tower V seemed to have been recently stolen, as the old pit was filled with a light soft soil most dangerous for tunneling, but 'Isa, one of Warren's excavators, boxed his tunnel beautifully, stepping it down, box by box, as the base of the wall fell, and cleverly turning the corner at the inner angle of the tower. The work went rapidly around the Tower ABCD, as it is buried in firm brown soil, easy to excavate, where it pays to make your tunnel high and narrow, both for ventilation and ease in removing the stuff. Twelve feet north of B the rock rises rapidly and Ahmed neatly accomplished his task of driving a tunnel up-hill, stepping nimbly out of the way of the rolling stones.

It was extremely interesting, as well as a tax on the mind, to trace these two walls running about in the same line, the one above the other. One inconvenience in excavating is that you can never see your whole work at one time. For example, after clearing out and measuring one partition in the chamber-system we filled up the tunnel with earth from another gallery. Indeed during a few days most of our workmen were underground. On rainy days this was most convenient. But though many people penetrated our tunnels no one but ourselves saw the entire work. Still those who looked down Shaft 1 could form a clear idea of what we were following, for at one glance they could see the surface soil, the smooth upper wall, its rough rubble foundation[1] resting on the corner G of the drafted old wall, and finally the rock below all. At Shaft 2 they could see the same archæological stratification with the addition of the *débris* separating the two wall-systems. This *débris* was mainly brown mould containing potsherds.

The reader may now begin to understand how this excavation took nine weeks, though other shafts were worked at the same time both at Siloam and along the Section AB. The filling up of shafts and tunnels occupied some days longer, and now the field has resumed its ordinary appearance. It will, however, bear a better barley crop next year owing to the turning up of the soil.

We now come to the second division of the season's work, namely, the study of the rock along the Section AB. This extended from a point behind the back wall of No. 6 of the chamber-system to B.M. 2479.7 on the road coming from Bâb Neby Daûd. The direct distance is about 400 feet, but the shafts employed in reaching the rock and the following of clues to right and left bring up the length of shafts and galleries to much more than twice that amount. Ground was broken at a point

[1] In one of his letters, Dr. Bliss remarks: "The rubble of the later wall is of rough stones, large and small, not built in courses, held together by mud with a slight admixture of lime. Where this rubble rests in the earth it is 14 feet thick" (*see* above, p. 10).

50 feet north of the back wall, the rock was reached at a depth of 31 feet 6 inches, and a gallery driven south.

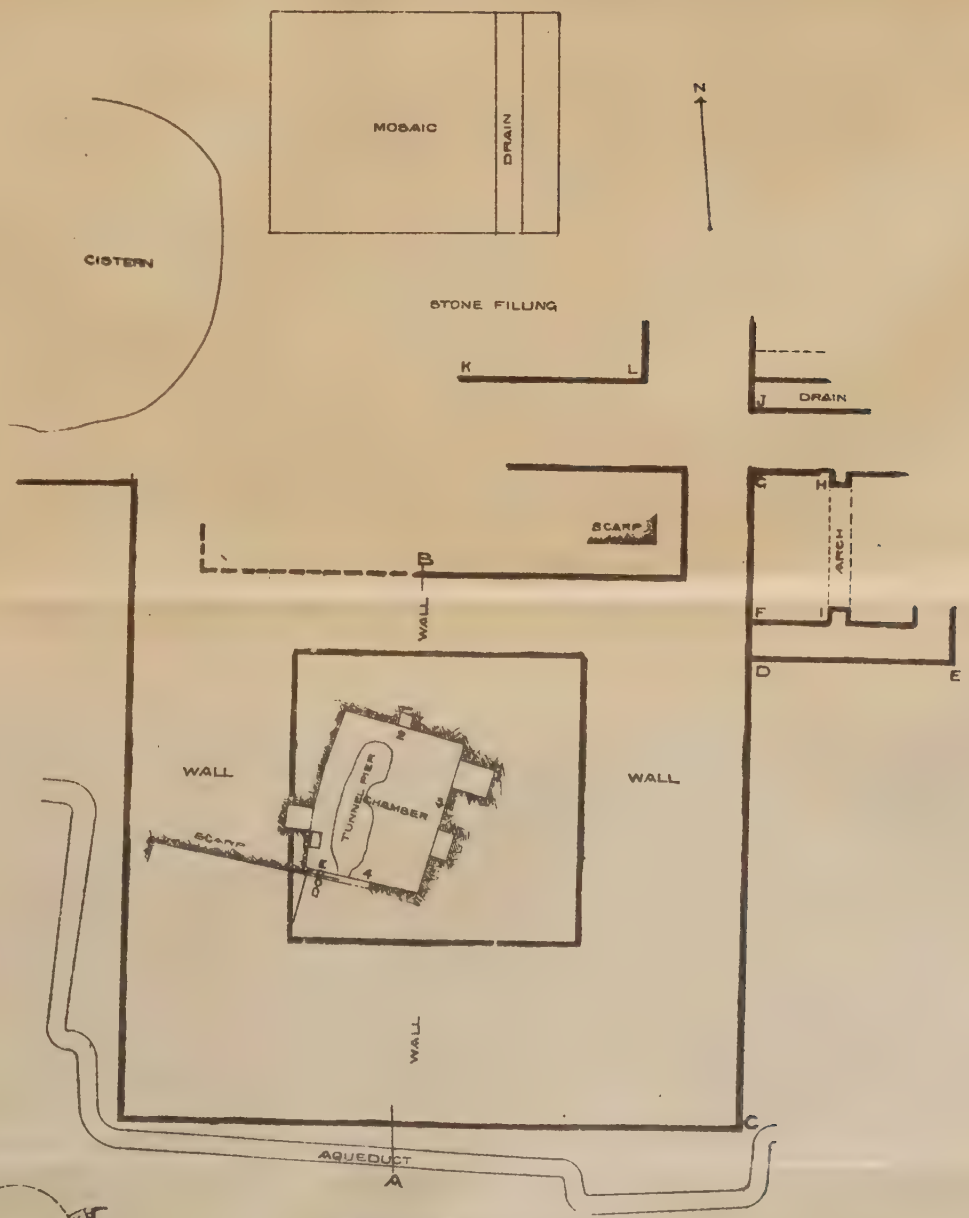
The rock slopes down naturally, and nothing was found but a few rude, thin house walls. The red virgin soil still covers the rock and the back wall of the chamber-system which we saw standing to a height of 11 feet, is built down for 7 feet in a trench cut in this virgin soil. Returning to the shaft and driving a gallery north, we found nothing but insignificant scarps, probably due to quarrying, till we reached the aqueduct discovered by Sir Charles Warren. In my report for January, 1895, I described the aqueduct entering the ancient city at Tower II, and gave reasons for supposing it to be identical with Warren's. On striking his aqueduct in our section we followed it westwards as far as it is laid down on the map to the road where a blockage occurs. Returning to Tower II we followed the aqueduct north-east, further than last year, to a blockage 50 yards from the blockage on Warren's aqueduct to which it was still pointing. These blockages are due to air-holes which have been filled with fallen *débris*. That the line traced by Warren and the line traced by us are parts of the same aqueduct is clear. The construction is exactly similar. In both parts we find the double coats of plaster: a similar separation of the plastered bottom; the same finely worked corners, in places double; the same marked variations of height and breadth. A further proof lies in the levels of the flooring, as there is a fall of 1 foot between Tower II and the point where the aqueduct was struck in Section AB. Moreover there is roughly smoked in lamp-black in the roofing of both parts the bench mark of the Ordnance survey ⩛.

A probable explanation is now advanced for the curious bend taken by the aqueduct as observed by Sir Charles Warren. A glance at the plan shows that it turns aside to avoid the building which evidently stood in the way of its direct course. The minor turns may be attributed to a careful feeling after rock levels.

This square tower, which projects south from a system of chambers, has walls of extraordinary thickness. The east and west walls are 14 feet thick, the south wall 15 feet 11 inches, and the north wall 7 feet 2 inches. They consist of rubble built in courses averaging 20 inches high, pointed with strong mortar made of lime and ashes. Only the corner stones are dressed, one or two showing a boss. These massive walls enclose a chamber only 25 feet square. We sunk to the rock at the south-west and north-east interior angles of the chamber, finding it filled to a considerable height with a solid filling of large rubble set in mortar, which had to be quarried out, and which was quite distinct from the walls. Pushing towards the centre of the building from the north-east corner, we found a sudden drop in the rock, and quarrying down through the filling for 9 feet we discovered a rock-hewn chamber, whose roof, now broken, had originally a barrel-vaulted form. (*See* ground plan, section, and elevations, Pl. III.) This rock-hewn chamber is not in the centre of the tower built around it, nor is it in the same line. Though not quite rectangular, its dimensions are, roughly speaking, 14 feet long by 10 feet

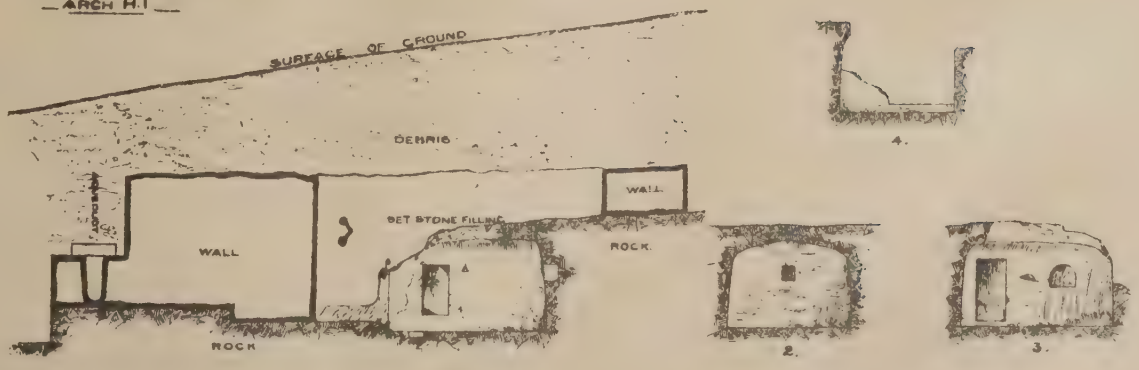
EXCAVATIONS AT JERUSALEM

TOWER NORTH OF AQUEDUCT



GROUND PLAN

ARCH H.I



SECTION A.B.

ELEVATIONS. 2.3 & 4

SCALE 10 0 10 20 30 40 FEET

Excavated by F. J. Bliss.
Mus.ᵗ Exam.ᵈ by Capt. C. Dicken
16. XII. 95

6 inches. The four sides were followed by quarrying through the filling, but a solid pier had to be left in the middle for a support. Still a large part of the flooring was seen as we tunneled under this support, reaching the centre of the chamber. The approach was originally from the open air by a door cut in a scarp, as may be seen by a glance at the rock levels in the general plan.

This scarp is broken away (Section AB), but one rock-cut jamb of the door and the door socket still remain. The interior walls are covered with fine plaster, very much broken. In the east, west, and north walls occur the large recesses and small niches seen in the elevations. One recess has a small groove, as if for a shelf. Curiously enough, the rubble filling extends within the recesses. Not a single tomb loculus was found. The Augustinians have found in their property to the east of this place a rock-hewn dwelling, unconnected with tombs, with a similar niche and recess. I have examined the tomb chambers on the south side of the Valley of Hinnom by way of comparison. I find no chambers without loculi, except two that directly connect with tomb-chambers and none containing the cupboard-like recesses. We carefully sounded the floor of our chamber, which gave no sign of a cavity below. Thus it has no connection from within with any other chamber. Outside we followed to the west a scarp over which the west wall of the tower is built for 12 feet, when it turns south. This scarp, taken in connection with the level rock in front of the chamber, suggests that it opened on an open court, but that no chambers led from this court from the faces of the east and west scarps is proved by the rock, the top of which was traced along the east and west sides of the tower. At the points outside the sides of the supposed court it is only 4 feet higher than the flooring of the latter. There is still room, however, for a parallel chamber to the east, opening from the north side of the court, and we are still searching for this.

This great tower is very curious, but certain points are clear: the rock-hewn chamber had a broken roof when the tower was built around, as shown by the filling built down into the former; the tower was not isolated, as proved by the lesser thickness of its north wall. The massive walls and the equally strong filling mean one of two things: either something was meant to be concealed, or a foundation was needed for a tower of great height. As far as our investigations have gone, we have found nothing but an ordinary ruined rock-hewn dwelling, not worth concealing; hence we argue from the present *data* that it occurred by chance at the spot where a lofty tower was to be built.

As seen on Pl. III, and more extensively on the general plan, it projects from a system of chambers. The wall DE apparently does not belong to the system, as it is not bonded into CG, and the masonry is different, consisting of small roughly-squared stones set in courses, open-joint, and the mortar does not contain the ashes always characteristic of that of the tower system. At G we have a true course, and the character of FGH is similar to that of the faces of the tower, but of smaller stones. The round arch, HI, would thus be an addition at the

time of the wall DE. In a tunnel to the east the wall GH was seen to turn to the north. We are also trenching to the west of the north-west corner of the tower, but on neither side is there any indication of a wall having the extraordinary thickness of those of the tower. On the west the rock cistern rules out the possibility of such a wall now existing at that point. We have still a few days' work before the investigation becomes entirely exhaustive, but the facts are decidedly against a city wall here. Moreover, the masonry of the tower itself has not the character of that of a city wall.

About 12 feet north of the wall KL occurs a chamber, 25 feet by 19 feet, with a mosaic flooring from 2 to 3 feet above the rock. The walls of the chamber are almost entirely ruined, and are of slight thickness.

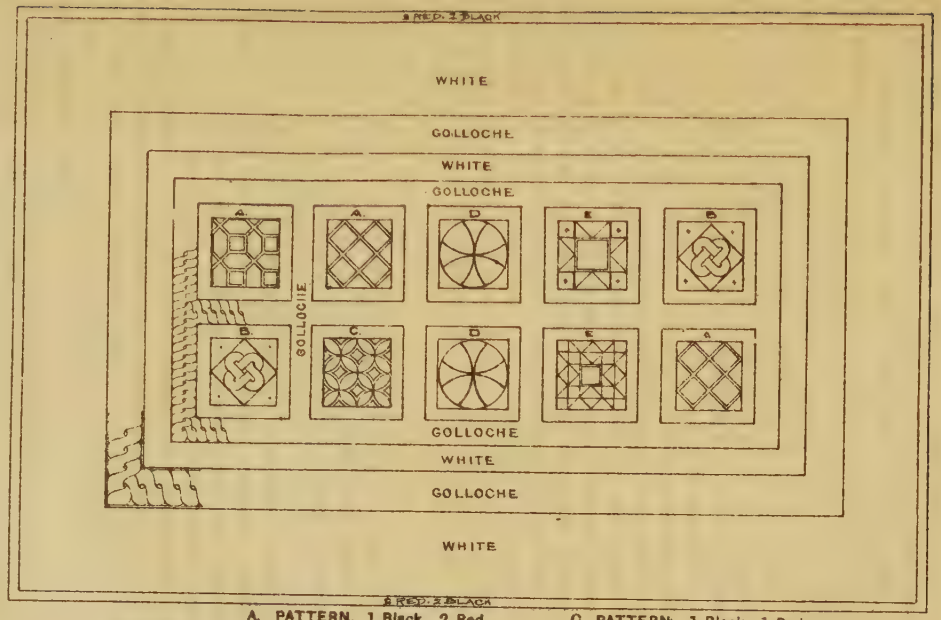
The mosaic is in almost perfect preservation. Though buried under 15 feet of soil, by a careful directing of two tunnels we were able to recover the complete pattern (Pl. IV). The plans[1] explain themselves. Mr. Dickie's task was no light one. To sit on the floor of a hot, damp tunnel, 55 feet from the air supply, by the light of four or five candles placed in bottles, the air growing thicker every hour, while he measured and coloured, and then to emerge into the midst of a cold, rainy outside world, was in my view a trying experience.

In our trench to the east of the corner we found fallen fragments of mosaic of a still finer workmanship and more elaborate design and colouring, the tesseræ being of white, black, grey, two shades of red, and two shades of orange.

Coming from the north and running across the chamber there is a drain 2 feet 6 inches broad, and at least 5 feet high. It is cut off by a made-up bottom between the chamber and the wall KL of the tower system. It is in line with the similar drain to the south, butting up against the upper city wall as described at the beginning of this report. A drain was also observed against the outside of the wall GH, abruptly cut off by a wall of the tower system. This may be a branch of the mosaic drain. This latter appears to furnish a key to the chronology of the various discoveries at this point. The drain is of course later than the mosaic. It also seems to be earlier than the tower system, which interrupts its natural path, though it is directly cut off by the made-up bottom only 12 feet north of the wall KL. Even supposing that it turned west, and is identical with the drain at J, in this case it was cut off by the tower system. The aqueduct seems to have been diverted to avoid the already existing tower. We thus have the mosaic as the oldest and the aqueduct as the most recent of these various constructions. The mosaic is probably not older than early Roman times, hence the aqueduct may be that of Pontius Pilate, whose great work of bringing water to the city caused such a tumult among the Jews. Confirmative of this hypothesis is the fact that the pottery found between the aqueduct and the mosaic is Roman or later, while that found in

[1] The plan showing the mosaic pattern in colours can be seen at the office of the Fund.

PLAN OF MOSAIC.



NOTES.

A. PATTERN. 1 Black. 2 Red.
B. " Red. White. Black.
E. " Black and White Centre. 2 Red Outline. Black and White Checks.
All on White Ground.

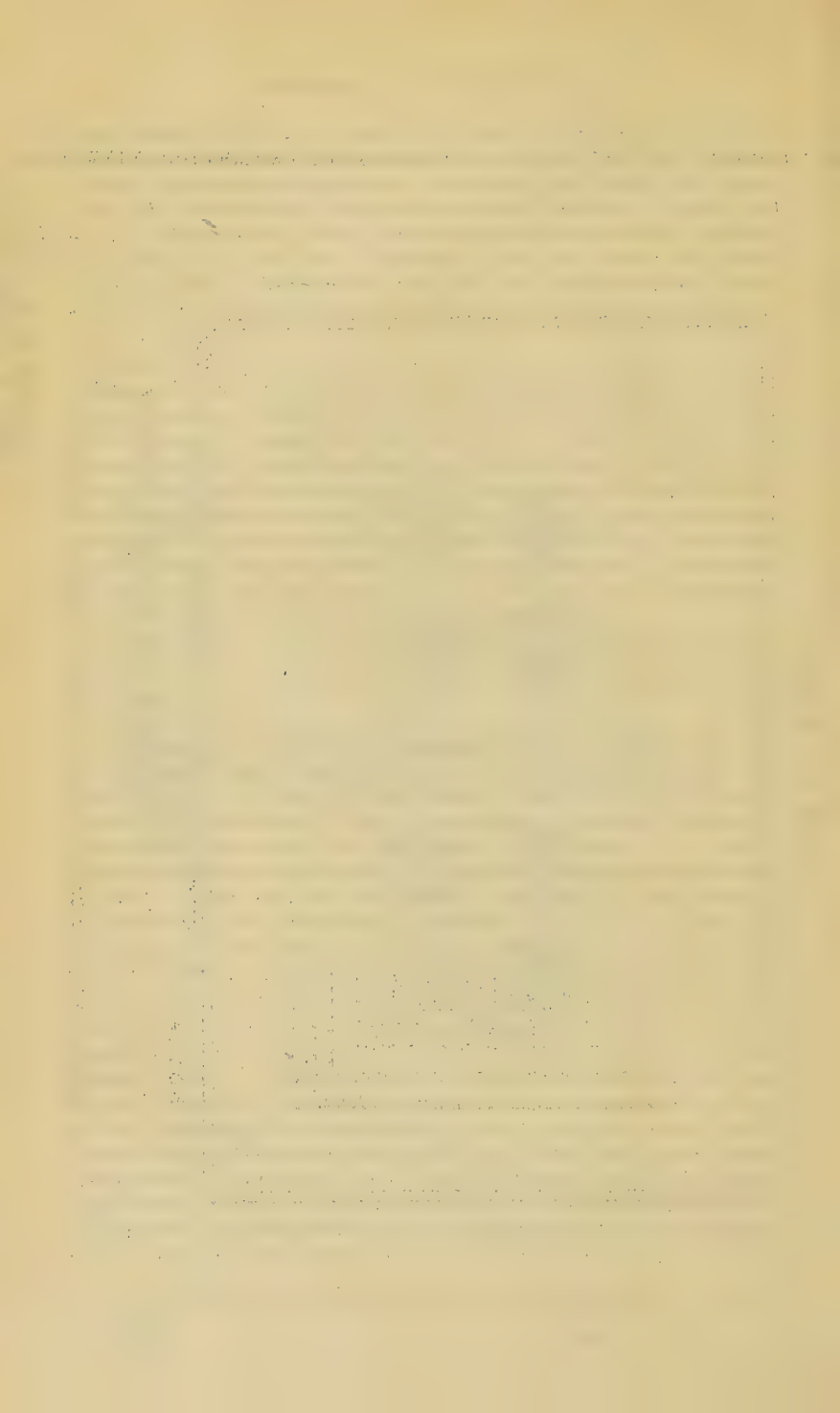
C. PATTERN. 1 Black. 1 Red.
D. " 1 Red.

10 Cubes = 6 Inches.

SCALE 0 1 2 3 4 5 6 7 8 9 10 11 12 FEET.

Excavated by F. J. Bliss.
Meas'd & Drawn by Arch. & Dickey
10. XII. 95.

To face page 18



connection with the lower south wall is mainly Jewish. Roman tiles were found bedded in the filling of the great tower north of the aqueduct. Drawings of the pottery and other objects found in our excavations will, I hope, be ready for the April *Statement*.

From the mosaic north to the fork of the road, in one gallery driven on the rock, nothing appeared but a few rude, thin house walls. These, though carefully examined, are omitted from the plan as they would merely appear as unedifying scratches. Under the fork of the road we struck a wall, standing to a considerable height, and showing a vertical joint. Breaking through, we found that this indicated the outside corner of one house with a wall of another system of houses extending from it to the east. The south wall of the house to the right was roughly built in courses from 15½ inches to 27 inches high; its east wall, though clearly traced by the *débris* banked against it, consists of much broken rubble, without a decided face. It evidently had been used as the west wall of the cellarage of the system of contemporary houses to the left. The south wall of these was traced for some 35 feet to the east, and its thickness found at three places to be only from 4 to 5 feet. The masonry consists of roughly-squared rubble, set in courses 12 inches to 14 inches high, resting on ruder foundations. Partitions were found running to the north and south. Some few feet from the end of the tunnel, a drain, coming from the north-east, breaks through the wall. This drain is 2 feet broad, about 4 feet high, and its bottom is not on the rock. In character it resembles the drain crossing the mosaic, with which it seems to be identical, as we did not see it in our gallery which ran to the west of a line connecting these two bits of drain.

Returning to the corner of the house described above, we pushed north along its east wall under the road, when we came upon a small birket extending back of the house, thus indicating the northern limit of the latter. The birket has curiously curved sides, its bottom is rock and its walls are plastered. The south wall is only 18 inches thick. Breaking through the north wall, which is thicker, we found ourselves in a chamber 5 feet broad, with walls similarly plastered. It has not the shape of the birket, being rectangular, but it may also be a birket connected with the other. From this point for 9 feet north the work was extremely difficult. The top of our tunnel showed set foundation work, resting on *débris* through which the tunnel was driven. Its path crossed the mouth of a large rock-hewn cistern. The mouth is choked up, but not closed of set purpose, by a large fallen stone, and the interior is only partly filled with *débris*.

Three or four feet beyond the cistern's mouth we struck the back of a stone. On our removing this, a quantity of loose shingle poured into our tunnel through the orifice. When the stream of shingle stopped, Abu-Selim was able to stick his head through the hole and announce that the removed stone, the back of which we had seen, belonged to a wall facing north. However, attempts made to enlarge the hole resulted

in a fresh stream of shingle and larger stones. I could not now put my head through to see how dangerous a cavity had been made under the road. Accordingly we were forced to open a shaft from the road, and sank down near the north face of this wall, which consists of quarry-picked stones, badly squared, pinned up with chips and set in coarse mortar, the courses varying from $11\frac{1}{2}$ inches to $13\frac{1}{2}$ inches high. This face rests on the rock, and was seen standing to a height of 11 feet to a point only 6 feet under the road. The question of its breadth is not clear, but in no case can it be city wall. If the foundation work seen at the top of the tunnel belongs to it, then it might have been 8 feet thick, but in this case it was built over the choked up cistern, and its south face rested on *débris*. This fact would militate against its being a city wall, as the outer face of a city wall at this point should face south, and it is unlikely that the outer face of a city wall should rest on *débris* while the inner face rested on rock.

If the mouth of the cistern were outside of it, then the south face (now ruined) could only give a breadth of 4 feet, too small for a city wall.

Continuing towards the north 7 feet beyond this wall, we found steps descending at the angle of a cistern or reservoir. Walls and steps are of rock, both covered with cement of lime and ashes. The construction is similar to that of "Cistern I," found during our first season, and discussed on p. 255 of the *Statement* for October, 1894. Driving on we found this cistern filled with loose *débris* containing large stones, the dislodging of which again threatened to undermine the road, and we were reluctantly obliged to open a fresh shaft a few feet beyond the point where our tunnel had become dangerous. As the cistern did not continue to the point of this shaft we may take its breadth at about 19 feet. The east and west dimension was not ascertained.

From the large stones which had arrested our progress we had guessed that we were near a wall, and this appeared in the newly made shaft. The facing stones have all disappeared, but the line of the inner packing runs east and west. Before following it we thought best first to find its breadth. As its ruined top lies only $4\frac{1}{2}$ feet under the road surface we ran an open trench to the north. To our astonishment we pushed along the top for 23 feet before we reached the northern face, which consists of well-set drafted stones, evidently an outside face.

Sinking to the rock, we pushed east, soon finding a corner, and then followed the wall south, the masonry becoming more and more ruined till the one course remaining came to an end at a distance of $24\frac{1}{2}$ feet, which brought us to within a short space of the point where we had seen the face-robbed wall. The mystery was now explained. Our open trench had been driven along the top of the east wall of a building. We had first struck its south side, just short of the south-east outer angle; we had then found its north side, near B.M. 2479.7; then the north-east outer angle, and had worked our way back to the south-east corner. The character and size of the masonry (the upper courses averaging 24 inches) suggest that this is a tower in a city wall. Our trench across the top shows that the walls (if walls there were) are at least 8 feet thick, hence

the tower was probably solid, as no sufficient space remains for a chamber. We followed the north face to the west, but the masonry suddenly breaks off, and we are still searching for clues. The discovery of this supposed tower throws light on the nature of the wall seen 8 yards to the south. They cannot be two independent city walls, as they are too close together, and stand at the same level and to the same height. They cannot be parts of the same wall. And if either of them be city wall, it is the northern tower that shows the characteristics. Thus the southern wall appears to be part of a dwelling.

As half of this report is taken up with the Section AB, which was cut to ascertain whether any other walls ran across the line north of A, I am sorry that at the only two places where a city wall possibly runs the returns are incomplete. I have already delayed the report over one post, but a buried city regards not the sailings of steamers, and is coy in revealing her secrets.

The map on which this season's work is laid down contains also last year's work, which appeared on a map in the January *Statement*.[1] The discrepancy in the positions of the wall as observed in a comparison of the two maps is thus explained : starting from a fixed point, I laid down the direction of the wall as given by the prismatic compass ; the survey was correct absolutely, but I had not then learned what was the local difference between true and magnetic north ; this has been since ascertained ; a fresh survey by Mr. Dickie has established the correctness of mine, and he has laid all the discoveries down in their proper relation to the Ordnance Survey, with check measurements from fixed points. The alteration in the direction of the wall immediately west of the tower at Jewish Cemetery was anticipated by my remark at the bottom of p. 17 of the January *Quarterly Statement*.

Since the last report was sent the work has been driven at full speed, only one day having been lost. We have also picked up the line of wall crossing the mouth of the Tyropœon, its base having been reached with great difficulty in a shaft 37 feet deep, where the sewage oozing from the pool is most unpleasant. Thus far the rains have not interrupted the work, as during one fearful storm we were fortunate enough to pursue two or three tunnels, and shift the earth to others which were finished with. But this is not a chance that often occurs. The work of the party has been, on the whole, good. The alternation of heat and cold is what makes the Jerusalem climate so trying. Several of our workmen have been drafted into the reserve. The labourers pursue the work of mining with great courage, and when I asked Ahmed, who had got among wicked-looking *débris*, whether he was afraid, he replied : "I fear but one thing, and that is that you put another man in my place." Abu Selim manages the diggers, land-owners, and crop-owners with his usual tact. The owner with whom we did not come to terms last year has proved himself not only an admirable man of business but a perfect gentleman, as the bargain once made this

[1] Only a portion of this map is reproduced in the present number.

summer he has never been near us save for a friendly visit, which we would like repeated.

Our relations with the Imperial Museum at Constantinople are cordial, through its Director, H. E. Hamdi Bey, and our genial Commissioner, Ibrahim Effendi, who both are deeply interested in the progress of the work.

In closing I would beg indulgence for the hurried style of this report, which has been written under great pressure. The pen was often dropped during the midst of a sentence, when I was summoned from the tent to make a descent underground.

Jerusalem, *December 8th*, 1895.

REPORT ON TOMBS DISCOVERED NEAR SÛR BÂHIR.

By Archibald C. Dickie, A.R.I.B.A.

On my return to Jerusalem after a two weeks' holiday up the country, I was instructed by Dr. Bliss to report on some tombs which he had discovered on a hill about a mile due east from the village of Sûr Bâhir, from which it is separated by a ravine. The initial discovery was made by some natives, who were digging on the crest of the hill for broken pottery. They reported it at once to Dr. Bliss, who immediately visited the place and found it to be a cell enclosing a very interesting series of tombs.

Accompanied by Ibrahim Effendi, I started on the morning of 12th October, equipped with the necessary implements for the accurate plotting of the building, and the no less necessary lunch basket or lunch "hurj," as it may more appropriately be called in this country. Three workmen preceded us, whom we overtook at the base of the hill after an hour's ride over the now barren and unfruitful hills lying to the south of the city.

A general survey of the hill top gave me but little light on the position of the tombs, as the entrance had been filled up since Dr. Bliss's visit. Everywhere were signs of a disturbed surface, but in no place could I find any clue to lead me to the object of my visit. At last, after careful examination and a little hand excavating, in what seemed to me to be the most recently disturbed soil, a welcome voussoir peeped out of the crumbling earth followed by another of the same. Here I set the men to work, and after an hour's digging I was able to squeeze myself into the building at the apex of the vault, just where the steps lead down to the cell. The *débris* had all fallen from this aperture, and consequently more than half of the interior was practically empty, hence the inside excavation only consisted of minor pickings here and there, to find real bottoms, true corners, thicknesses, &c.

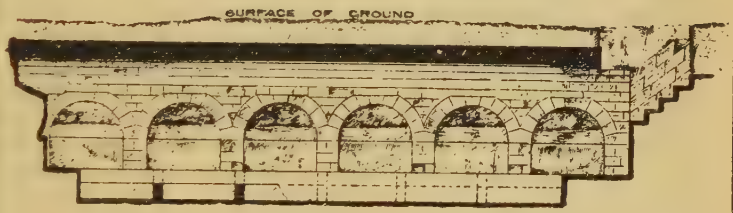
TOMBS DISCOVERED

NEAR

SÛR BÂHIR

OCTR 95.

GROUND PLAN



LONGITUDINAL SECTION

CROSS SECTION

F. J. Bliss

Meas. Drawn by A.C. Dickie

The building can best be described as a rectangular, semicircular, barrel-vaulted cell, measuring 6 feet 1 inch wide by 49 feet 3 inches long; the height from the bottom of floor tombs to apex of vault being 11 feet 11 inches. Six semicircular-arched recesses, 3 feet 3 inches deep, 6 feet 2 inches wide, and 5 feet 3 inches high, on each side form the side tombs, and the floor is divided into 12 compartments, 6 feet 0½ inch long, 2 feet 9½ inches wide, and 2 feet 7 inches high, by dwarf walls, 10 inches thick, thus forming the floor tombs. The entrance at the east end has five steps, which end abruptly at the face of the wall. The masonry of the stair walls is diagonally bedded, parallel to the rake of the steps, the upper course being the springing course of a sloping vault, which must have intersected the main vault at the broken part. At the west end is a small opening (now built up), measuring 3 feet by 12 inches, abutting up to the apex of the vault. The cell is partly cut out of the solid rock and partly built. In the lower part the rock has been faced up and made good in cement and stones, but in the upper part of the recesses the natural rock projects slightly forward. The masonry is fine pick dressed, with chiselled margins well set and close jointed with fine trowel-keyed pointing, courses averaging 15 inches high. The floor tombs must have been covered with stone slabs, although no signs of them now remain. Broken parts show that the fronts of the tombs had been formed by a thin division or slab of very strong concrete, made of lime, pottery, and small stones 4 inches thick and 2 feet 6 inches high, bonded into the side piers at the small checks shown on plan. Stone slabs would seem to one to be the most natural and simple method of construction, but in every tomb where any remains of the fronts existed I observed the same peculiarity, the check heads being in many cases broken off, evidently when the tombs were destroyed. No remains of the covers exist, but it is probable that they were of slabs resting on the concrete wall, and the 4-inch projection at the back of the recess. The bottoms are made up of the same character of concrete as I have already described.

Not a vestige of the contents of these tombs remains, although it is certain that they were almost all used, from the way in which the edges and checks of the piers have been destroyed and the fronts broken off, as well as from the cement beds and joints which can be seen on the bearings for the covers. Recess No. 10 appears for some reason or other to have been unused, as there are no checks in the piers and no evidence to show that its orignal form has been disturbed. The ruthless hand of the robber seems to have confined itself to the tombs and their contents as all the other parts of the building are in perfect preservation, and the whole structure looks as fresh and new as the day it was built. Indeed, although it is probable that it has existed since Byzantine times, were it not for the blackened stones above the lamp-rings hanging from the apex of the vault, it would be difficult to believe that one was not measuring up a recently-completed building to satisfy the demands of a nineteenth century builder. It is curious that such a building could have

remained so complete, when only 3 feet of *débris* protected it from the ravages of the Arab.

A study of the surrounding ground above shows that the tombs may have been under a larger building of some sort, situated within a quadrangle, measuring, roughly speaking, about 70 yards square. At the north-east, just on the verge of the descending rock, can be seen two courses of masonry, which might have been the corner of the enclosure. The east wall is also distinctly traceable for some distance, running exactly at right angles to the tombs. The south and west lines of walls are inferred from the ridges of *débris* and fallen stones, there being a distinct rise of ground everywhere inside these lines. No hewn stones are seen above the tombs, or to the north of the enclosure. There is a large rock-cut and plaster cistern within the enclosure to the north-east of the tombs, with a Latin cross modelled on the plaster.

The site is entirely surrounded by deep valleys, except at the south-west, where it is connected by a narrow neck to the adjoining hill. A bright autumn day gave us a splendid view of the surrounding country. The Frank mountain loomed and Bethlehem glittered on the south, while the sparkling Mount of Olives and the interesting but dismal village of Bethany attracted the eye to the north. The hill village of Sûr Bâhir, ragged and picturesque on the west, linked the circle of view, which on the east was completed by the barren sandy "knowes" leading to the Dead Sea, with the intense blue belt of water beyond, terminating in the clear, soft tones of the indescribable, unpaintable blue mountains of Moab.

A JOURNEY EAST OF THE JORDAN AND THE DEAD SEA, 1895.

By Gray Hill, Esq.

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We desired to reach Petra from the north. No European has, so far as I know, visited this most interesting place either from the north or the south for a good many years, and it has hitherto been very difficult of approach from the north. We made an attempt which failed in 1890. It is fully described in my book, "With the Beduins." We tried again in 1891 and in 1893 under the charge of Sheikh Hâzâh of the Beni Sakhr tribe, keeping on those occasions to the east of the Derb el Haj, but had not got far when we were driven back—in 1891 by the Beni Sakhr fighting with the Kerâki, and in 1893 by the Aenezeh attacking the Beni Sakhr. Since 1893, however, the Turkish Government has established military posts at Dhibân, Kerâk, and Ma'an, in addition to one at Madeba established in that year, and they were now said to be in process of establishing one at Shobek, so that the road to Petra from the north appeared to be no longer attended with great difficulty or danger.

This then was our fourth attempt, and it succeeded no better than the other three. Our plan was to make a preliminary excursion to the east of the Derb el Haj under the care of Sheikh Anad Ibn Madhi of the Beni Sakhr, who was to wait for us at Kalat Zerka, and who undertook to show us Umm el Jemal and the country to the south of that place, and then to proceed to Kerâk, Ma'an, and Petra. But we found that an order had been recently issued prohibiting travellers from going to Wâdy Musa (Petra) without special leave from Constantinople. The British Consul at Jerusalem was kind enough to telegraph at our request to the Embassy at Constantinople asking that leave might be obtained for us, but we waited six days without any answer being received.

Then all preparations having been made for a journey we could wait no longer, and started from our house, near Jerusalem, on the 18th of March, in charge of our old friend and Dragoman, George Mabbedy, in search of Sheikh Anad, having arranged that when an answer should come from the Embassy it should be sent by special messenger to Madeba, where we intended to go after the contemplated expedition to the east of the Derb el Haj.

We did not intend to trouble the Adwan Sheikhs to conduct us across their territory, which is the first to be passed after crossing the Jordan, as we had often traversed this part of the country before; but Sheikhs Fallach and Shebeeb, of that tribe, who had accompanied us on previous occasions, were not disposed to lose their baksheesh, and discovering that we were on the move bore down on us at Jericho, and took possession of us. The Adwan Bedawy, called in my book Abu Seyne, who always accompanies us on our journeys in this direction, and who had made the arrangement with Anad, was also with us. Fallach and Shebeeb demanded 12 napoleons for conducting us to Kalat Zerka, and on our objecting gave us the pleasing intelligence that they had sent to inform Sheikh Hâzáh, of the Beni Sakhr, that we were going to the country of that tribe with Anad instead of with him, and that in consequence Hâzáh was awaiting the arrival of Anad at Kalat Zerka with the intention of killing him. We knew the ways of the Adwan, however, and did not allow ourselves to be moved by this statement. Ultimately, with the help of the Effendi at Jericho, who manages the boats now afloat on the Dead Sea, we agreed with Fallach and Shebeeb for 6 napoleons. We stayed a day at Jericho in order to make an expedition by the row boat. A good south wind filled its sails, and blew with such force that very little rowing was necessary to enable us to ascend the river, and we went in three hours from its mouth to the Greek pilgrim bathing place—a very interesting and pleasant trip.

The next day passing the Jordan by the wooden bridge recently reconstructed, we came to Tell Nimrin and the tombs of the Adwan Sheikhs, in which there lay one of the sons and the chief wife of 'Ali Diab, the Sheikh of the Adwan, both of whom we had met in former years. Since our return home we hear that the great Ali the Wolf himself, has been put to rest there also. After lunching and resting here, we rode on

over the beautiful country, fresh and flower-bearing after the rains, and entered a winding glen, following which we came in two hours to 'Ain Jériah, where we found our tents pitched near the spring, and some long grass good for the four-footed animals.

The next day brought us through a pretty woodland and rocky country to Esweile, on the top of the high land to the south of the depressed plain called El Bukeia, and we there heard that Anad was encamped within two hours of us. We sent to seek for him, and before long he appeared riding on his dromedary. But we had hardly begun to talk to him when some soldiers came up from El Bukeia with a message from the Kaimakam of Salt, who they said was encamped below, to tell us that he had heard we were going with Anad, but that the latter could not take us safely, that the Beduin were fighting the Druses to the north, and each other to the east, and that the Kaimakam could not be responsible for any misfortune which might befall us if we trusted ourselves to Anad. We rode down to the Kaimakam's camp, where he sat in state with cavalry about him and a crowd of Beduin onlookers, and produced our passport and teskeré. The Kaimakam repeated his warning, adding that Anad was not one of the principal Sheikhs of the Beni Esa, or sons of Esau (a branch of the Beni Sakhr), and was not powerful enough to protect us, that owing to the want of rain that winter the Aenezeh were encamped more to the west than usual, and that Umm el Jemal and the country south of that place which we wanted to visit were the scenes of constant conflicts. These statements were confirmed by the chief Sheikh of the Sardiyeh (another branch of the Beni Sakhr), who was present, who added that neither he nor Sheikh Hâzâh with 500 horsemen would make us safe from a "Ghazzu" in that part of the country. We returned crestfallen to our camp, and found that Anad had fled upon his dromedary.

The Kaimakam presently mounted the hill with a troop of soldiers, and offered to follow Anad and arrest him until he should return the 10 napoleons, but we knowing that these must have been spent, and having no wish to put so wild looking a creature into durance vile, declined the offer. Then the Kaimakam and the soldiers having departed we sent Abu Seyne to look for Anad, who returned and told us he had but his wife and children and dromedary left, and could pay back nothing, so we bade him go in peace. The weather was cold and windy on these heights, and we cut down a large branch off an old dead tree, and made a bonfire to rejoice our men and ourselves withal.

The day following was one of the most delightful we have ever spent east of the Jordan. An hour's ride brought us to the head of the beautiful well-wooded Wâdy Sir, which descends in many a curve to the pretty village of Sir, where are houses and mills recently built by Circassian settlers. The Syrian oaks were putting forth their first green ; and on the branches of one some goats were walking, having evidently jumped on to it from the high bank close by. A stream appeared after we had been about an hour in the Wâdy, and grew stronger as we descended. After three hours' riding in this most charming valley we

halted to lunch in a delightful nook, under high rocks which protected us from the wind and sun, and enjoyed a sweet open-air siesta on our travelling carpet. The Sheikh of the Sardiyeh, who had ridden part of the way with us, left us here. George wanted to buy his mare, which had, he said, a written genealogy of 58 generations. She was said to have been taken in war from Ibn Raschid, the great Sheikh of the Rowallah, but whether the genealogical tree was captured also did not appear. The Sheikh, however, declined all offers, saying that she was beyond price.

At the village of Sir there is a remarkable Syrian oak. It sits upon the bare rock at the top of a precipitous cliff 20 or 25 feet high. Some of its roots no doubt strike into the sloping hillside behind it, but others run right down the rocky face of the cliff to the soil in the valley below. Probably the moisture which enabled the roots to grow downwards came from the drippings down the rock. There are many caves in the Wâdy Sir artificially cut or enlarged, two or three of several storeys—one built up with walls and windowed like a house. An hour more and we were in sight of the caves and ruins of 'Arak el Emir, at the foot of which the Sir runs. Both caves and ruins are too well known to need description here. After revisiting them we crossed the Sir and encamped on the hillside to the east of it. In the evening I walked up the glen, keeping as near to the stream as I could get. It is lined with magnificent oleanders and Syrian oaks. I noticed one splendid castor-oil tree, and the ground was carpeted with lovely wild flowers, amongst which were cyclamens, red anemones, tulips, daisies, yellow marguerites, pink linum rubrum, and wild peas of all colours. At night we had a glorious bonfire of Jericho thorns and "dancing and delight" of the Beduin.

We had sent to a camp of the Beni Sakhr, which was within an hour or two, to invite the sons of the late Sheikh Zottam el Faiz to come to visit us, hoping to make with them an arrangement for safe conduct somewhere in their country, near to which we now were ; and to our joy some of the head men responded to the invitation, and undertook to take us to a place we had heard of before, and indeed once seen afar off by the light of sunset—the ruined castle of Khauranee, which we afterwards found to be about 21 miles east of the Derb el Haj.

The next day we ascended the shoulder of a hill to the southward of the place where we had encamped the night before, and entered on the splendid gorge of Wâdy Naaûr, keeping several hundred feet above the stream on the north side of it. We passed above a waterfall, which we could hear but not see, descended to a brook bordered by very large oleanders whose waters fell into the stream below, ascended the opposite slope which was beautifully wooded and crowded with wild flowers, and entered on an open moorland with craggy limestone heights rising out of it. Here we met great herds of the cattle and camels of the Beni Sakhr, and a son of Zottam joined us. We passed an old cistern with a well-built stone arch, and after lunching under a rock which sheltered us from the wind, we reached, in half an houf's further ride, the encampment of our

newest friend, where we had to sit a long time while a dish of rice and sugar was prepared, and coffee was roasted, ground, and served. Heavy showers of rain pierced through the worn-out old tent and wet us somewhat; their best tents they told us had been taken from them by the Aenezeh in the recent war.

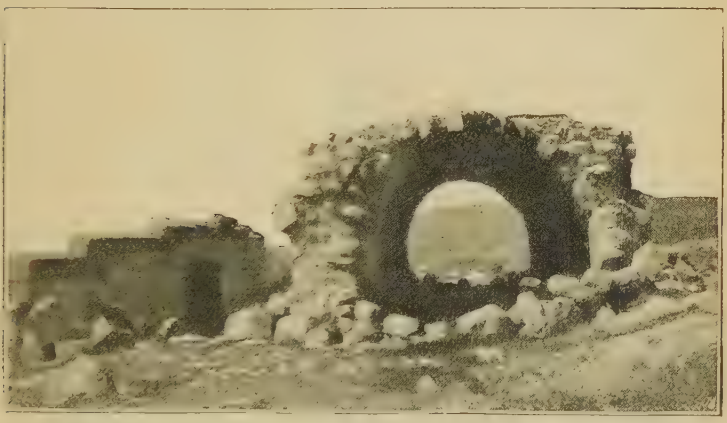
When the rain slackened we rode on to Yâduîdeh, which was near at hand on higher land, and where we found our camp. At this place there is a solitary house with outbuilding, belonging to a native of Western Palestine, who has bought land and cultivates it, but we were told under great difficulties, owing to the free and easy notions about the property of others entertained by the Beni Sakhr. Furious squalls of rain tore round our tent, and it seemed strange to be informed, as we were, that there was no water east of this place, and that the cisterns of Umm Moghr were dry. We hoped, however, that the rain now falling after a long drought would give some supply, and that we might be able to encamp at that place, and from it to reach Khauranee. The Beni Sakhr told us of other places of interest in their territory, but said, owing to the lateness of the season and the absence of rain, it would be almost impossible to get beyond Khauranee, and that there would be considerable danger even in getting there, but that if we would come to visit them early in February they could take us as far as Jôf. Some day I hope we may be able to act on this suggestion.

We had a fearful storm of wind and rain in the night, but blue sky appeared in the morning, and the heavy downpour made us still more hopeful about the water supply to the eastward. The Sheikhs could not say whether they could take us to any place except Khauranee if water was found, until they consulted our old friend, their brother Hâzâh, who they said was not far off, but with whom they had had a serious quarrel. This, as we were told, had arisen from the fact that Hâzâh had persuaded some of his young nephews to go with him on a raid against the Aenezeh, without consulting their father, and several of the young men had been killed in the affair. The Sheikhs sent a horseman to Umm Moghr to see if there was any water there, and we had to wait another day for his return.

The weather being now fine, we could walk about and look at the ruins, for there are on this hilltop masses of the same kind of shapeless ruins as are found at Hesban, el 'Âll, and many other places in the uplands of Moab. In addition, there are here arched recesses cut out of the rock, the purpose of which we could not guess, and part of a tower tomb, like several which exist near the Haj road—smaller and inferior editions of the fine one near Amman; also many rock cisterns, some water, a pool or reservoir, caves—some built in with arches—and sarcophagi, and some small circular basins cut in the rock, of a kind often met with east of the Jordan.

This day, greatly to our astonishment, there arrived at our camp Arar Ibn Jésy, the Sheikh of Petra. How long and greatly we had wished to meet this man! He recollected the letter which we had sent

him in 1890: his dispatching in reply a messenger with a paper bearing an impression of his seal, as testimony of his authority, to warn us against the danger of proceeding further towards Petra, owing to the fighting of the tribes in front of us, and his commissioning his relative to assist us out of the difficulty into which we had got with the Ghawârineh. Could we induce him to conduct us now? But it appeared that he had come out of Petra with all his tribe on account of some quarrel or dispute, and he said he could not go back for the present. He offered to send his negro slave in charge of us, but we thought that Arar's authority being withdrawn from the Valley of Moses, the protection of the dark gentleman in question would scarcely be sufficient, and seeing that special leave, which we still hoped to receive, was absolutely necessary, we declined this offer. Arar said that a party



Umm Moghr, Gateway.

of Europeans had been to Petra about ten years ago (this would, no doubt, be Professor Hull's party), and another about two years after that; but that since then no Europeans had been there.

That night, while Abu Seyne and several of our men were feasting at the Beduin camp, a thief got into our sleeping tent and carried off a box, but my wife waking and raising an alarm, and George running after him promptly with a sword, he dropped his prize, and was lost in the darkness.

The next morning we hired four camels from the Beni Sakhr to carry water from Yâduîdeh (as the messenger reported but little water at Umm Moghr, and none to the east of that place), and we started in the beautiful fresh air and sunshine. We steered first south-east to Rufeisah and then a little north of east to Umm Moghr. We passed between two hills, each covered with ruins, which appeared to answer to the places marked on the Palestine Exploration Map as Hawar and El

Khumân, both of which the Beni Sakhr called Looban. An hour and a half's more riding brought us to the Haj road, near, as far as I could judge, to the spot marked on the map as "Khan es Zeit," but this name was unknown to the Beni Sakhr, nor did we pass or see any building here. Neither did they know the name "Kusr el Ahla," as to the north of where we were, although so marked on the map, but they say there is a "Kasr el Ahl" near to Umm Rasas, and that this is the only "Kasr" of that name in this part of the country. They told us that there was no Khan or ruin on the Haj road north of the place where we crossed it, until one comes to Kalat Zerka, which we had visited in 1893.

On the road we bought a sheep for a majidie. After passing vast swarms of young locusts crawling and jumping on the ground, we came

UMM MOGHR, HIGHEST POINT.

in 1 hour 25 minutes from the Haj road to Umm Moghr, first visited by us in 1891, which stands on a range of hills about 300 feet high, running north and south. As I could not on this occasion see in the Palestine Exploration Map any spot of which I was sure, from Umm Moghr I went to a hill rather higher, about 300 yards to the west of it, and there took the following bearings by prismatic compass:—Umm Shetta (Mashita), 225°; Es Samik, 270°; Jebel Shehan, 218°; Umm el Amad, 265°; Khauranee, 105°. I estimated that Umm Moghr is about four miles east of the Haj road.

There are ruins of considerable extent at this place, remains of walls, and of a tower on the highest part, no doubt the citadel, very numerous cisterns, and arched subterranean vaults. Base Corinthian capitals, and stones ornamented in the Byzantine style, are lying about. In the walls

of what I call the citadel I noticed very large flint stones roughly squared, which I had not seen elsewhere in the ruins of the land of Moab.

South-east from the citadel 800 paces is a large open reservoir for water, the cement adhering in many places to the stone walls, but the whole is in a ruinous state. There are two flights of steps descending into it. It is 33 paces square and about 20 feet deep ; 110 paces further, or 910 south-east from the citadel, is a ruined triple stone gateway or covered passage. But between Umm Moghr and this reservoir and gateway I did not see any signs of building. There were, however, numerous rock-cut cisterns. At Umm Moghr we found a little clean water in a cistern, which was very welcome, as the water in our skins was very muddy.

The night of that day (26th March) ended Ramadan, and four sheep were killed for a great feast. In the evening who should ride up but Sheikh Hâzâh ! It was like a play : one important character turning up after another upon the stage. Dismounting, he looked haughtily at his brethren and nephew, and then kissed George and me on both cheeks, and saluting my wife in a most friendly manner, entered our tent. Then slowly came in one brother Jeruah ("Wounds," a warlike name, and so considered honourable), then another, Mohammed, and last of all, still more slowly, the nephew, Enbár. Hâzâh offered to take us to see not only Khauranee but several other ruins unknown to Europeans, and we set ourselves to work to bring about a reconciliation between him and the rest.

A fire was made on the ground between three large stones, on which a great cauldron containing the flesh of two sheep seethed in leben was placed, a man with a large wooden ladle keeping the savoury mess stirring. Our friends were happy that Ramadan was over, and that they might eat, drink, and smoke when they felt inclined. Abu Seyne did not feel so cheerful, however. He had recently killed one of the Beni Sakhr (the man he said in some long-previous conflict had killed his father), and stolen camels and camp furniture from the tribe, so that he doubted of his reception ; but the Sheikhs all promised, out of regard for us, that he should be safe in their hands while he was with us in our service, and this promise they faithfully kept, and they welcomed him to the feast, reserving their rights of vengeance for another time. The chief nominally amongst those present was Fowwaz, the eldest son of Zottam and nephew of Hâzâh, but Hâzâh, by age, force of character, and ability, took the lead. George urged all to peaceable feelings and forgiveness, and at last they sat down together, saying, in reference to the poor dead nephews, "The living are better than the dead," "God grant you other ones," and as they uttered these and such-like Beduin philosophical remarks it seemed as if all ill-blood were forgotten.

The next morning at 7 we started for Khauranee, intending to visit it and return to Umm Moghr the same day. We had seen it clearly the evening before by the light of the setting sun in the distance to the

eastward. We left our camp standing at Umm Moghr, taking with us George, the Beni Sakhr Sheikhs, and two of our strongest and most trustworthy men. The day was grey and gloomy, with a cold west wind. We steered a little to the south of east. In 20 minutes we came to the remains of a large shallow, square reservoir surrounded by hillocks, which looked as if they concealed ruins. About 20 minutes further on we passed a similar place. After that all signs of former habitation ceased, nor did we notice any old cisterns to the east of the last-mentioned place. We several times crossed a winding dry watercourse. We put up a hare which the Beni Sakhr on their fleet mares ran down, and caught sight of a wolf, and some jackals and gazelles. In about 3 hours the scanty grass had disappeared, and dark flint gravel became plentiful. In 4 hours 30 minutes of fast riding we had got within about 2 miles of Khauranee, which we saw to be a large square building standing on a platform of flint raised about 50 feet from the plain.

Several of our Sheikhs rode up the hill in advance to reconnoitre, and having reached the top and disappeared from view, suddenly reappeared galloping down it and waving us to go back with all speed, which we hasted to do. Soon one (Mohammed) overtook us and reported that they had seen forty horsemen in the castle and about it, and that these were pursuing us, and if they overtook would rob and perhaps shoot us. So on we fled for our lives, our horses sharing the fear, and tearing over ground full of holes, where we were afraid of their coming down. It seemed as if the great plain could never shelter us, and we knew that good as our horses were, the pursuers would be better mounted, and far better riders than we. But there was no time for speech, only for silent, impetuous, unhesitating flight. After about an hour (for so it seemed, though perhaps not really so long) of this tearing work Sheikh Mohammed called a halt, and thankfully we got off our dripping beasts and prepared to rest. But Mohammed made us mount again, although he allowed us to proceed more slowly. So on we went again, wondering what next. But a little later our other Sheikhs came up riding fast, and told us it was a false alarm, as the horsemen in question turned out to belong to the camp of Sheikha, the widow of Zottam el Faiz, who had her camp behind Khauranee. Would we go back? Not to-day. Only let us rest a bit in peace.

We found a large dirty puddle in which our horses were glad to drink, and then we had to plod on slowly for four hours more to rejoin our camp—a hard and trying day for my wife. But determined not to be beaten we resolved to set out again next day, taking our camp with us, sleep in the castle of Khauranee, and if we found Sheikha's camp at hand, to make a fresh start from thence, and get two days further to the east until we should reach a place of perennial water supply called Azrak, which Hâzâh described as existing there, from whence we could, going south, see another ruin of great importance of which we had heard.

So the next morning (28th March) we rose early, sleepy as we were,

emptied the remains of the water in the cistern of Umm Moghr into our skins, and started with our tents for Khauranee. It was again a cold grey windy day, but we feasted in the thought of what we were to see. As to danger no one in this country can tell when it comes, or when it is passed. After 5 hours' ride we got a good supply of milk from a camel which we met, and which our Beduin milked, and we enjoyed a delicious drink, for the water in our skins, being the dregs of the cistern, was too horrible to swallow. We saw a herd of gazelles, and one was shot. We halted again below the plateau, and again our Sheikhs ascended to see if all was safe, for on the way we had met a man who told us that Sheikha's camp had just moved northward. At the end of 6 hours we reached Khauranee. Our mules and camels carrying the water were longer on the journey, and from the time they took I estimate the distance as 21 miles east of Umm Moghr, which would make it about 27 east of the Haj road. This estimate, however, can be checked by the bearings which I have given above. On reaching this place all feelings of fatigue left us for joy at having succeeded at last.

Castle of Khauranee.

Khauranee is a square castle, 40 paces each way, with half towers at the corners, and quarter towers on each side of the gateway, which is in the middle of the east wall. The castle is built to the cardinal points of the compass, the outer walls (which are in an almost perfect state) being about 28 feet high, and pierced for arrows. In the centre is a courtyard 16 paces square. Opening from this on the ground floor are several large chambers, apparently once used as stables, and above are many smaller rooms, amongst them chapels with little Norman arches in the upper part of the rooms, and Christian devices. The upper storey is approached by a flight of stairs in the outer wall. We noticed 2 deep cisterns in the building, but they were empty, and no doubt had long been out of repair. The castle is roughly constructed of irregularly-shaped blocks of yellow stone laid with mortar, somewhat darkened by weather, and seemed to have been originally coated over with cement. The roof had fallen in in many places, but the arches covering the ground floor rooms

and the floor of the upper storey carried on them are sound. The stables would accommodate several hundred horses. There are holes under the turrets by which men can enter or escape, and the mark of many a bullet shot is on the walls. We supposed the building to be a Crusaders' castle, and to be intended as a stronghold and water store between Umm Moghr and Azrak.

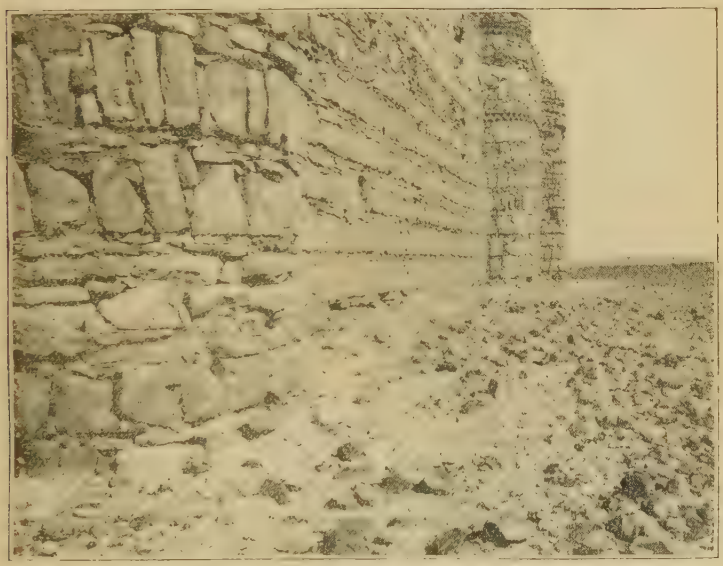
The situation is stern and gloomy—a large dark flint plateau, low hills to the north, the descent to the south bounded by some hills perhaps 20 miles distant, and to the east a low wâdy leading, our Sheikhs said, to "Amr," which they described as a ruin with pictures on the wall (perhaps a church), and beyond to Azrak; and all around the desert,

Castle of Khauranee, Gateway.

not a human being or even a camel to be seen. A few vultures were the only tenants of the castle, and they flew out as we approached. Near the south-east corner of the building was a little Beduin burial ground, more than one grave of which the hyenas had rifled, and the smell of the dead was about it. A native abiyeh and shirt lay by the heap of stones which covered the place of the last burial. Owing to the evening light coming from the west we could not see Umm Moghr, nor could we make out any other known object from which to take a bearing.

We entered the gateway, and pitched one tent in the courtyard for our private accommodation, and our men settled themselves comfortably in the stables, whilst the Beduin placed themselves as sentinels upon the roof to watch for an enemy. The Beni Sakhr told us that the castle

was built by a certain Shebeeb for his wife Khauranee, and Hâzâh declared that he and his tribe presented the castle as a gift to my wife! On the walls was the tribal mark of the Faiz family of the Beni Sakhr, also to be seen on the walls of Umm Shetta (Mashita), but we could not see any old inscription, although we searched carefully for one. There were, however, some pathetic scribblings in Arabic, such as "God be merciful to thy slave, Hassan." Hâzâh said that the castle had been the scene of conflicts and bloodshed ever since he could remember, and that these inscriptions were by men in fear of death, some, indeed, condemned to die by their enemies. I added our names as a record of our visit. This evening the largest of our water skins burst, and its precious contents were lost.



Outer Wall of Castle of Khauranee.

We learned that the camp of Hâzâh's sister had that day been moved to the northward, she being apprehensive of an attack from the Aenezeh, and that there were no Beni Sakhr near us. It was necessary then to surrender for this year the idea of getting further east. Hâzâh told us that in the rainy season the water runs right down the dry watercourse which we had crossed to Azrak, the place of waters already mentioned.

We passed a strange night in this weird and lonesome place. The wind tore and howled round the walls in fierce gusts which rose higher and higher, and rocked our tent to and fro in the courtyard, so that notwithstanding the protection which the high walls afforded we thought it must come down. The charcoal fire in one of the lower chambers

brightened up and showed us our wild guides, and their wonderful eyes seemed alight with it, and we could see their dark curls over their beards loosened under their kefiyehs ; then it sank down, and left them unseen in the dark corners. We lay down in our clothes in order to be ready for any event which might occur, and listened in the intervals of the awful shrieking of the wind, the screeching of the owls, the crying of the jackals, and the stamping of the horses and mules, and watched the vultures flying over the upper chambers of the building.

All night Hâzáh and George sat at the gateway watching. At about 1.30 a.m. they heard the sound of a horse's hoof and saw a man on horseback—one solitary rider—crossing the edge of the plateau to the east of the gateway. George fired his gun across the man's course and stopped him, the horseman falling on the ground with terror at being assailed so unexpectedly. George and Hâzáh rushed at him and secured him and seized his gun, but finding him to be the bearer of a letter which he stated to be a declaration of war from Ibn Shalam, the great Sheikh of the Aenezeh, to Talál, the head of the Beni Sakhr tribe, returned his gun and let him proceed on his journey, after making him swear to his assertion that no Beduin were following him. All he carried with him in addition to his gun were a few cartridges, a small quantity of figs, and a half emptied girby.

The next morning very early Hâzáh told us we could not possibly proceed further to the east, that the messenger had stated there were 80 to 90 tents of a hostile tribe at Azrak, and that the Beni Sakhr, lately in the neighbourhood of Khauranee, having all moved northward, and our water being nearly exhausted, we must get to a safer place. We could not swallow the dregs of our water skins even after boiling and in the shape of tea, and washing was out of the question for want of water, but fortunately we had a little camel's milk left, and the weather was cold—indeed, we could hardly sit on our horses for the terrible blasting wind. We hoped to have got a bearing of Umm Moghr before leaving, but the sky was too cloudy for us to see it, and there was a little rain, which soon ceased, however, while the wind continued to blow in great gusts across the desolate plain.

There was nothing for it but to pack up and beat a retreat to the westward, hoping for better luck next time. After several hours' fighting against the wind we were fortunate in getting a long and welcome rest in the dry watercourse, sheltered by the bank from the blast ; and here we made a good fire of scrub, boiled some muddy water which we found in a little hollow, drank the precious coffee, and made merry with great joy over the thought of our castle. Fighting again against the bitter wind we resumed our journey, and went in search of Hâzáh's encampment, which we found somewhat to the south of Umm Moghr, and where we enjoyed a good dinner of gazelle and pigeon (the birds with beautiful speckled feathers, shot on the way), camel's milk, and fresh bread baked by Hâzáh's wife. In this encampment were about 40 tents, and great flocks of sheep and herds of camels, but water was very scarce.

We had to stay two nights here in order to rest our animals, and took advantage of the delay to send camels to Ammân for a supply of good drinking water from the source of the Zerka (Jabbok). At night nearly every tent had a fire before it, and the flocks brought in to lie amongst the tents gave a sweet pastoral look to the scene. There was much talk of the coming war with the Aenezeh, and a despatching of messengers to gather the Beni Sakhr together; we were told of atrocities committed by the Aenezeh in the last conflict, of the killing of old men blind and infirm, and little children, and the outraging of women, deeds which the Beni Sakhr said were never done by *them;* and of the treachery of the Adwân, who, they said, had promised to take care of the cattle of the Beni Sakhr during the conflict, and had stolen them.

Many of the people in the camp were Hagii—the greatest thieves of all the Beduin in this part of the country. One head man amongst them became very friendly with us, and offered to take us next year to the country to the east of Petra. But the reputation of this tribe is so bad that we should perhaps feel some hesitation about trusting ourselves to them.

Here was a tent occupied by a native merchant, who passes his time with the Hagii, and also his assistant. A similar merchant is to be found with the Beni Sakhr. The merchant came to see us, and told us he had travelled all over this country. He had a good deal to say about the ruins which we wanted to visit, and especially recommended some in the territory of the Hagii. He supplies the tribe with necessaries, taking sheep, &c., in exchange. No money passes. The Sheikh has to deliver the sheep at a place where the merchant's agent or principal receives them, and if any are missing the Sheikh is responsible. He said the Hagii could go a very long time without food. In their forced marches in search of plunder this power would be very useful, and has no doubt become an hereditary possession with them.

Here came to us a poor woman of the same tribe. She said she had buried 10 sons and was left with one girl, and wanted an ornament to hang on her to keep off the evil eye, which had slain her sons. This we supplied, having provided ourselves with cheap showy trifles as gifts, which came in useful on many occasions. Some of the Hagii had the most sinister countenances, and we felt that without the protection of Hâzâh and his brethren our stay here might not be agreeable. Hâzâh was inclined to take us to another ruin, but his brethren and Abu Seyne refused to go, saying it was too dangerous.

One habitation we noticed here which was a miracle of simplicity. A tattered piece of camel's hair cloth stretched on a few wretched sticks afforded the covering to this family residence. The one bed was formed of stones ranged in an oval, which was filled with dry scrub for a mattress, and the wooden camel saddle served for a pillow. Diogenes could not have improved on this. The horses looked thirstily at the fresh water brought from Ammân, but with their usual carelessness one of the muleteers threw down the largest skin from the mule's back and

broke it, so that we had to husband the rest. Our friend of the Hagii promised to bring to our house at Jerusalem a "white cow," from the country to the east of Petra. At night we gave a supper of mutton and rice, and had bonfires and dancing in the usual style, and much merriment, illuminated by the light of the beautiful young moon shining in a clear sky of darkest blue.

Amongst the Beni Sakhr was a servant of the Zottam family who possessed much skill as an actor, and for "tragedy, comedy, and scene indivisible" was not easily to be surpassed, laughing and crying with equal facility as he told his stories and sang his verses. Here we parted with Hâzáh, and in the sweet light of the next morning set out with his brethren, Jeruah and Mohammed, and his nephew Enhár for Umm Shetta (Mashita).

This place we now visited for the fourth time, but it has been so fully and often described, that I will say nothing here about it, only mentioning that half-way up the hill near to it are many caves, one of which is unusually large, with four apertures cut in the rock roof. From here we went across the Haj road, and through the green cornland to Madeba, where we hoped to find our permission for visiting Petra.

But no messenger had come, and we were puzzled how to act. We called on the Mudir—there is a small military post of the Turkish Government recently established here—to talk matters over. He received us very politely, told us the road to Kerâk was now quite safe, and thought it was probable that the Kaimakam of that place would be able to allow us to proceed to Petra without the special permission, as it had been applied for, and we had good reason to suppose it would come.

On leaving Madeba, going south, one enters upon the country of the Hameideh, a tribe which harassed and tried to stop us in 1890, as narrated in my book, and here Abu Seyne declined to go any further, as he had serious blood feuds with that tribe. This was a great loss to us, as he was a capital guard at night, and could always be relied on in an emergency. We parted from him, therefore, very regretfully, but we felt that he had already run so much risk with the Beni Sakhr that we could not expect him to incur further risk with another tribe over which we had no control.

The next day we travelled to Dhiban in the beautiful spring weather over a country, for the earlier part of the way, green with young corn. About 4 hours brought us to Wady Waleh and the "Waters of Dimon," which flow in a sweet little stream amongst oleanders, and then in a rushing little water-fall down a very narrow gully formed by the stream in a bed of pure white rock.

A little before we reached this spot, as we rested under the shadow of an overhanging rock, a native boy ran up to us, crying out, "How do you do, Mrs. Hill? How do you do, Mr. Hill?" It was little Oudy Ibn Gazooze, one of the pupils of Mr. and Mrs. Lethaby, formerly of Kerâk, the English missionaries mentioned in my book, who recognised us, one

of those boys who had brought us eggs and bread hidden under their clothes when the Kerâki refused to supply us with food in 1890. The boy was now twelve, but not so much changed in five years as we might have expected. He had a sweet face and gentle manner. His brother, Mousa, who had, as the elder, helped us most, had been murdered by one of the Kerâki two or three years ago while guarding his father's corn. We had kept up a little communication with these boys, sending and receiving an occasional letter through the missionaries, and sending them little presents of books, &c. Oudy was travelling with his uncle, a shepherd from Main (Baal Meon) to Kerâk, and told us he had not been on this road for over a year, so that it was a strange coincidence (and a very fortunate one for us, as it turned out) that we should meet him. We invited uncle and nephew to join our camp, and they gladly came along with us.

In the waters of Dimon our cook caught many fish by throwing something into the water which, when swallowed by the fish, made them insensible for a brief period, during which they were picked out of the stream. The evening brought us to Dhiban, where we had to wait long for our camp, the muleteers having lost the way and not turning up till long after sunset. Indeed we had settled ourselves comfortably on our travelling carpet upon the ground, for a night *al fresco* in the lovely moonlight, after a drink of good goat's milk procured for us by Oudy from his female goat, when the mules appeared tired out with their long march, and the tents were set up. At Dhiban was a military encampment, and we called on the Bey in command. He gave us information similar to that given by the Mudir of Madeba.

The next morning the Sheikh of the Hameideh, who had troubled us in 1890, came to see us, and was very obsequious, fearing, no doubt, that we might complain of his former conduct to the Bey, which, however, we had no intention of doing. To propitiate us the Sheikh told us he knew of an inciption which he would show us. We thought of the Moabite stone, and I walked a long way in the hot sun with the old man up a winding valley, until, with many mysterious looks, he turned up a flat stone on which three or four Greek (?) letters appeared.

In our journey of the previous day we had seen the splendid purple cliffs of the south side of the great gorge of Mojib (Arnon) in the distance, and this morning we soon reached it, and in 4½ hours of hot work had crossed the gorge and reached the summits of the southern cliffs. On the way we thought much of the anxiety with which, in charge of the Kerâki, we had crossed the same gulf in the other direction five years ago, and we had little idea that we were now approaching a still more dangerous experience.

As we journeyed on we saw the tents of the Mujêlli in the distance—one camp, that of Sheikh Khalil, where we had been kept a week in 1890—the other, of Sheikh Saleh, who had bolted with the money given by us for both of them and left us to the mercies of his brother Khalil, and we began to wonder whether we were prudent in venturing amongst the Kerâki again. We overtook a soldier on horseback going to Kerâk, and

invited him to stay the night in our camp, an invitation which, with the prospect of dinner before him, he gladly accepted. We pitched our tents a little way west of the "Kasr" at Beit el Kurn, and sent the soldier to Khalil's camp, about an hour off, to buy some milk, with which he returned later.

After revisiting the interesting ruin of the "Kasr," where we found some shepherds and their cattle, we had our dinner, and soon after went tired to bed. Later in the night we were awakened with an altercation going on round the tents, strange voices shouting angrily. George told us in answer to our enquiries that the shepherds of the ruin accused us of stealing their cows, and were trying to pick a quarrel with us. He answered them that we had taken nothing; let them see if we had any cows with us. They replied that this would be our last night, and went back to the "Kasr."

We went to sleep again, thinking that it was nothing but talk. About midnight I woke up with a shivering fit, and asked my wife for something by way of medicine. She advised a little whisky and quinine, and went to a box in which she kept a small flask ready for emergencies. Just after she had given it to me the box was moved with a whiz and a ball went through it (cutting a hole in her clothing which lay in the box), and lodged itself in a bundle of rugs which lay between our two beds, and then rapid firing began. In the morning we found another ball had pierced both sides of the tent just above our beds—a little higher or lower and she or I would have been hit, if not killed. It was a wonderful escape.

On hearing the shots I seized my revolver and went outside the tent, and could see the flashes of the rifles from the "Kasr," but the men firing were hidden behind its walls. We could do nothing; our assailants were protected by the ruin, and George wisely advised us to be quiet, or we should probably have a more determined and overwhelming attack made on us. Some of the shots passed close to me as I stood in front of the tent door, and I suppose were aimed at me. The men had fired about twenty shots, when Oudy's uncle, seeing one of them looking over the wall, recognised him in the moonlight, and called on him by name to stop firing. After this it ceased, no doubt because our assailants, finding that one of them was known, feared consequences. If the good uncle had not been with us we might have left our bones at the "Kasr."

We do not know whether the intention was to kill or only to frighten us and drive us from our camp, so that our assailants might plunder it; but as we learned afterwards that the Mujêlli Sheikhs were aware beforehand that we were coming and were much concerned at our approach, I feel little doubt that the attack was planned by them with a view of preventing, or, at any rate, deterring us from making claims against them before the Governor of Kerâk for compensation for their robbery and detention of us in 1890.

The next day we proceeded to Kerâk, passing through the interesting ruins of Rabba of Moab on the way. After two and a quarter hours fast riding we reached the north side of the deep ravine that surrounds

Kerâk. While we rested here one of the Mujêlli overtook us, and by a clever ruse George managed to obtain from him the names of four of the shepherds who were at the "Kasr," and the information which he obtained confirmed that of Oudy's uncle that they were some of Sheikh Saleh Mujêlli's men.

We then descended the ravine (recalling vividly to mind the very unpleasant and anxious time five years before when we crossed the reverse way in charge of Saleh and his followers), and rode up the steep ascent to Kerâk. We lost no time in calling at the new Serayah, and laid our complaint before the Governor, together with the pierced box, and the bundle of rugs with bullet embedded in it as our evidence. He made full enquiries into the matter, summoning before him our men and all who appeared likely to be able to throw light upon the case, and despatched some soldiers with our chief muleteer to the "Kasr" and the Mujêlli camps to seek for the offenders. Of course no one of them was to be found, and of course the Mujêlli Sheikhs denied all knowledge of the matter, but the Governor, having the names of the four, promised to do his utmost to bring them to justice.

We now urged him, as some compensation for the risk which we had just run and the loss which we had suffered from the Mujêlli in 1890, when attempting to get to Petra, to allow us to go on to that place, furnishing us with a guard of soldiers. But he said he must adhere to his orders, and that without the production of a special permission we could not proceed. We stayed a day longer, partly hoping to shake his resolution, and partly for the pleasure of a talk with our old friend Miss Arnold, and our new friend Mr. Forder, the good English missionaries, who have replaced Mr. and Mrs. Lethaby (now stationed near Aden), but it was useless, and we resolved to descend to the Ghôr, pass round the south end of the Dead Sea, and return to Jerusalem by way of its western shores.

In the country round Kerâk there was a dearth, owing to want of rain, although there had been abundance to the north-west of that place. Barley was very dear, and sheep, goats, and cattle were thin and half-starved looking. The castle of Kerâk has been so fully described recently that I will say nothing about that very interesting place, which is now full of Turkish troops. On the morning of the third day we took leave of our good friends the missionaries, and departed under the escort of four mounted soldiers, whom the Governor sent with us for protection. We descended the Wady Kerâk under much happier circumstances than those under which we had ascended it, in charge of Saleh and his men, in 1890, and after six hours' delightful ride in hot, but very pleasant, weather, pitched our camp at El Mezraa, near to the stream which courses down the Wady el Deraah, and in full view of the now sapphire-coloured Dead Sea. Here the corn was ripe (6th April), and George, following the pleasant custom of the country, brought us a bunch of barley ears—the "first fruits" of the harvest—as a salutation. Strange and fantastic here are the cliffs of crumbling half-formed rock, and

pleasant the thick growths of bamboo, wild sugar-cane, and jungle along the banks of the stream meandering through the sandy waste. Some of the Ghawârineh tribe (for we were now in their territory), thinking us to be the Pasha and his retinue, came to our tents with their tax money in their hands, but we quickly undeceived them, and they retired to sit in a circle and talk us and our appearance over amongst themselves.

A wondrous moonlight night succeeded, and we had much leisure to observe it (for notwithstanding a great fire of brushwood which George had made to drive away mosquitoes and flies they were too abundant, and the weather was too hot for sleep), until fatigue overcame us and sweet oblivion came. Oh, those glorious Syrian nights! Who that has once seen can ever forget them?

Early the next morning we started off in the splendid sunlight, as the faint mists were clearing away from the silver lake and the long shadows of the eastern mountains still lingered upon it. We crossed the Lisan—the tongue of land which here projects itself so far into the Dead Sea, and descended to the water's edge. We sat and rested on branches of trees overhanging the lake, and taking off my shoes and stockings like a child, I greatly enjoyed a pleasant dabble in the water. Then we rode past Nimeirah, through the well-remembered and most picturesque scrub and jungle, and through the main camp of the Ghawârineh, and pitched our camp near to the stream which flows down the Wady es Safieh. On the way we met the villainous-looking old Sheikh of this tribe who had harassed us five years before, accompanied by his headmen, and by his cattle, sheep, and goats. He told us that he was going to complain to the Governor of Kerâk of the exactions of the Mujêlli, and to have the flocks and herds of himself and his people numbered for the Government tax. The Governor of Kerâk has an excellent reputation for honesty, and we were glad to be able to assure him that he would get justice.

Round our camp was a vast quantity of brushwood and trees containing many pigeons, some of which were shot for food. Another great bonfire was made to scare the flies, and this night I took my bed outside the tent, and slept most happily under the glorious sky, thus enjoying to the full, in the watches of the night, the sight not only of the host of heaven, and the flickering of the flames and shadows, and the refreshing night breeze, but the splendid light of dawn, and the invigorating sip of the fresh-boiled coffee which always accompanies dawn in Palestine. What a happy life this of gipsy wanderings! Why return to foggy England and squabbling politicians?

We had a long journey before us as we knew, and we started "very betimes," taking with us three of the Ghawârineh guides to pilot us though the swampy portions of the route. Notwithstanding their local knowledge we nearly lost one of our heavily-laden mules in a marshy bit amongst the jungle south-east of the Dead Sea. On getting to the south-west corner of the lake, after fording the stream which flows down the Wady Fikreh, our guides told us that owing to a landslip or the water

being unusually high, we should not be able to pass on the water side of Jebel Usdum, and should be obliged to make a détour to the west. As we had previously passed along the east side of this remarkable hill, we were glad of an opportunity of seeing a new route, nor were we disappointed in it.

Our path led us through a most curious and interesting part of the country, consisting of deep gulleys, cliffs with precipitous sides, and hills and valleys, some of yellow dried mud, and others of dazzlingly white chalk. Through the chalk is an extraordinary winding passage of several miles in length, and in most parts of only the width of a very narrow lane. It is sometimes only 6 to 10 feet across, and the sides stand up on either hand as precipitous as the walls of a castle, varying from 50 to 150 feet in height. It had to us the appearance which I suppose a passage cut in a white cheese with a knife would have to a maggot travelling through it. Through this gully it is said that the Hagii take a short cut on their way to the Jordan valley and the Jericho road to rob the "Kofles" going to Jerusalem. I have not read any account of this pass. It is south of the southern limit of the Survey of the Palestine Exploration Fund, which stops short at Sebbeh (Massada).

Mr. Forder told us afterwards that he had once travelled alone at night through this passage, and described the effect of the moonlight on the chalk as most ghastly and extraordinary. He is a man of a remarkably sturdy and courageous character, or would never be where he is. Once he had to journey over the hills to Hebron in wintry weather with nothing on but a shirt, the Beduins having robbed him of all else, and often has he been threatened with death by the Mujêlli.

Not a drop of water is to be found here, and a poor sheep which we had bought in Kerâk, and which had slept at night affectionately huddled close to one of our men at our last two stopping places, anticipated its fate unhappily by losing itself in the windings of this arid gully. After six hours' heavy work since our start we reached the shore of the Dead Sea. Our guides knew of water not far off, and soon turning again to the westward up a wild valley of reddish brown rock we came to a spring about a mile up the Wady, from whence flowed a little stream in which the thirsty men and animals drank their fill in happiness. Having taken lunch and a rest we set off again, and after that there could be no stopping until we should reach the foot of the cliffs near 'Ain Jidy, as there was no water on the way.

It proved a longer journey than we had counted upon. As we wound in and out of the little bays on the shore, it seemed as if we should never get past the Lisan on the opposite side. The weather became very hot, a khamseen wind set in, and the road became most difficult, passing sometimes amongst great rocks high up on the steep slopes of the hillside overhanging the water, sometimes amongst great boulders on the shore. The sun set and the last glimmer of day died out; the moon had not risen, the hot, heavy air exhausted us, and we were still picking our way along amongst the stones, crossing one little gully after another,

scarcely able to see our way. At last the moon arose, and after a while pierced to some extent the heavy clouds, and by her light we urged on our weary horses through a road rockier than ever but close to the water's edge. Here a donkey, getting its leg jambed between two stones, stopped the whole procession for long until George, with his strong arms, managed to extricate the poor beast, which fell over exhausted into the water, but presently revived and scrambled out. At this point a sulphur spring must have emptied itself into the lake, as there was a smell just like that of the old sulphur spring at Harrogate. It was 10 p.m. before we reached the stream of the Kid after eleven hours in the saddle, and lay down tired out, to sleep till some food could be cooked for us to eat.

It was necessary to give the animals a good rest here, for as long as the sun was on the cliff of 'Ain Jidy we were afraid to ascend the pass because of the great heat which prevailed, so it was not until late in the afternoon of the following day that we resumed our journey. The ascent was extremely difficult for the laden mules, and, of course, we had to walk most of the way. It was almost dark when we reached the top, and ate and rested, while the mules came very slowly and carefully up the last part.

We waited to see the beautiful sight of the moonrise over the Dead Sea, and when it was high in the heavens and the clouds having all cleared away illumined the whole of the desolate country at the top of the pass, we set off again, and stopping once or twice on the way to rest, and even to sleep, for a few minutes very contentedly on the bare dry ground, we reached a little before midnight a place where is a large cistern of water, and here we pitched our camp and went to bed.

At 'Ain Jidy one of the soldiers got a baby gazelle, which he placed in his saddle-bag, where the little creature sat content, with its head only visible, like someone looking out of a window. We poured a little milk down its throat, and on the way had it taken to a female goat which suckled it, and with the assistance of a similar foster-mother we afterwards kept it alive for some days at our house; but it caught cold and died when the bitter wind came back.

The next day brought us to Bethlehem and home, and so ended one of the most interesting and delightful expeditions we have ever taken. We trotted in great state past the Jaffa Gate, and down the outside of the north wall and up to our eyrie on Scopus, with our guard of four soldiers, very greatly to the satisfaction of our men, one of whom whispered to me, "This is very fine Howadja," as we passed along.

We grieved to hear soon after our return to Jerusalem that our friend Hâzáh had been stabbed in a family quarrel by his nephew, who had been of our party, and was dead, and slept with his fathers at Umm el Amad. Our efforts at peacemaking had been in vain. Arar, too, the Sheikh of Petra, is said to have exchanged the Temple Tombs of Wady Musa for a solitary grave of his own. Few and evil, alas, too often are the lives of the sons of Esau!

I take this opportunity of mentioning a few places near the Haj Road south of El Kahf visited by us in 1891, and some of which we have revisited since. A few of these places are marked on the map, but none of them are described in the survey of Eastern Palestine, which did not include their sites.

West of Haj Road.

Rujm Abbasia.—On a plateau.—Ruins of small Roman tomb tower. Outside west wall, nearly complete, with cornice near ground and at top. Pilasters with coarse Corinthian capitals at corners. About a quarter of a mile east of this on same plateau ruins of ill-shaped stones. Many caves and old cisterns between and around both ruins. One still holds water.

El Rejeeb.—Top of hill.—Heap of roughly-faced stones. Numerous old cisterns.

Ramadan.—At or near to spot marked Khan es Zeit, which name the Beni Sakhr Sheikhs say they do not know. I could not get bearing of any known spot. There is a hill due north about four miles off, with pile of stones on top, and trees close to top on west side of it. Here is a square tower or fort built of huge stones roughly faced and laid without mortar, in character like those in the depressed plain near Es Salt, called El Bukeia. Many well-hewn stones around. Cisterns inside and others with caves around. Found some small loose pieces of tesselated pavement. One cornice stone of base Corinthian still standing.

Zobeir Adwân.—The Beni Sakhr Sheikhs say there are three places of this name. One only marked on map.

Sahab es Sabrood.—Top of hill.—Two smaller square ruins similar to Ramadan. Many caves and cisterns. Below Sahab es Sabrood, a quarter of a mile west, is a very large cistern, with four mouths, and good water.

Párazay.—About 250 yards south-east of Bórazin.—A few drafted stones, some faced, very large caves and cisterns, the whole covering a few acres.

Umm el Amad.—Many cisterns. Unimportant ruins covering a considerable extent of ground. Tombs of the Beni Sakhr Sheikhs here.

Kûstâl.—In addition to ruins mentioned by Tristram ("Land of Moab"), observed the following in two visits:—

Remarkable cistern, into which I descended accompanied by George, and one of the Beni Sakhr Sheikhs. Slid down on steeply sloping and very narrow passage, feet first, for a depth of about 40 feet. Probably it was a flight of steps, but so covered with stones and *débris* that I could not tell, and it was very difficult to get down it, and in several places a tight squeeze. About 10 feet from the top a well-carved scallop shell over the doorway or aperture to the passage. The cistern, about 50 feet deep—the round shaft about 10 feet in diameter. At the bottom, four chambers, each opening by an arch from the shaft, each about 20 feet square and 15 feet high, and disposed so as to form a cross, divided by thick pillars

of rock left in excavating; the whole very clearly and carefully cut out of the solid rock; cement still adhering in many places; would hold a very great quantity of water if re-cemented. A very large number of cisterns in and about Kûstûl; some so covered by brushwood, &c., as to be dangerous to travellers not on the alert.

North-west of Kûstûl is a large quarry which looks suitable for a reservoir, but saw no signs of cement. Perhaps it was never finished. Lower side and slopes of ends raised by courses of large stones, so as to be equal in height to upper side; the quarry, 40 paces long by 25 wide. The old irrigation works in the valley just below Kûstûl are described by Tristram.

Some of the stones in what Tristram describes as the main castle are very large. Generally they are about the size of the stones of the Haram at Jerusalem. I measured one 13 feet 6 inches long. I could not ascertain its full depth or its thickness as it was embedded in earth, but its thickness above ground was 3 feet 6 inches.

Toneib.—Called in map "Hodbat el Toneib." The Beni Sakhr knew not "Hodbat." Small ruins on hill. Numerous cisterns, one holding water; numerous caves.

Looban.—I think identical with Howar and el Khuman—names unknown to our guides. Considerable ruins, partly inhabited, covering two eminences, and a hollow between them. Also a well-built oblong pool of good masonry, holding water. Ziza, 190°.

East of Haj Road.

Zoumlet el 'Alia.—A small cairn of stones on the top of a hill—a few hewn stones, and one portion of a column, graves, caves, and cisterns. Jebel Shihan, 215°; Es Samik, 260°; Umm Moghr, 166°; Kulat Ziza, 217°.

Cistern in plain west of Umm Moghr.—About 6 miles east of Toneib, and 2 or 3 west of the range of hills on which Umm Moghr stands (which is called Umm Shatterah), there is a cistern holding good water which is said to contain the last water supply to the east for several days.

Umm Moghr, and Khuuranee.—Described in above account of journey.

Baths of Callirrhoe.—We did not visit these, but brought to England a bottle of the water given to us by a Turkish Effendi, who had just returned from the baths, and was much interested in them. At his request, I had the water analysed by Mr. Edward Davies, the eminent analytical chemist of Liverpool, and subjoin a copy of his report.

CERTIFICATE OF ANALYSIS.

THE LABORATORY,
28, CHAPEL STREET, LIVERPOOL,
July 8th, 1895.

ANALYSIS of sample of water in bottle, labelled water from the Spring of Callirrhoe (Zerka Main), on the east side of Dead Sea. From Gray Hill, Esq.

	Grains per gallon.	Parts per 100,000.
Chloride of Sodium	76·91	109·87
Chloride of Potassium	8·96	12·80
Calcium Sulphate	10·47	14·98
Calcium Carbonate	12·60	18·00
Magnesium Sulphate	9·50	13·57
Magnesium Carbonate	2·66	3·80
Magnesium Chloride	·87	1·24
	121·97	174·26

Sulphuretted Hydrogen—·336 grain ; 3·2 c.c. per litre ; ·91 cubic inch.

This sample of water had a decided smell of sulphuretted hydrogen, and contains about one-sixth of the quantity contained in the old sulphur well, Harrogate.

The water had probably undergone some alteration from lapse of time ; but, as the bottle was well sealed, and the water was quite clear, the change cannot have been great.

EDWARD DAVIES, F.C.S., F.I.C., &c.
(Edward Davies and Son.)

THE SITE OF THE TEMPLE.

By Lieut.-Colonel C. M. WATSON, R.E., C.M.G.

THERE is, perhaps, no question respecting the city of Jerusalem, with the exception of that concerning the site of the Holy Sepulchre, which has excited more interest, or given rise to more diversity of opinions, than the discussion of the exact position occupied by the Temple of the Jews. So completely has the prophecy of Jesus Christ been fulfilled, that not one stone of that great building would be left upon another, that the very place where it stood is not certainly known, and is still a subject of dispute.

All the authorities who have considered the matter are agreed that it must have stood upon one part or another of the Haram Enclosure which

now surrounds the Moslem Sanctuary of the Dome of the Rock, but that enclosure measures in length more than 1,500 feet, and in breadth an average of 950 feet, covering a superficial area considerably greater than could ever have been included within the courts of the Temple. Numerous have been the theories which have been put forward, and supported by their authors with much vigour, and it is with considerable diffidence that I venture to put down some remarks upon the subject, after reading all that I have been able to find in various works, and after a consideration of the question upon the ground itself.

It has struck me that most of those who have formed an opinion upon the matter have started with some preconceived notion, which has more or less biassed their minds in dealing with it. For example, the late Mr. James Ferguson, whose book on the Temple is most thoughtfully worked out, and is well worth careful study, formed the idea that the Holy Sepulchre was on the site now covered by the Dome of the Rock, and to this consideration all other arguments had to yield. Others, and these certainly the majority of writers upon the Temple, appear to have been convinced that one or more of the ancient masonry walls of the Haram Enclosure must have coincided with one or other of the boundaries of the enclosure, set apart as holy by King Solomon, and believe that the Outer Cloisters and the Court of the Gentiles were included within the old boundary. But it would seem, on the contrary, to be a more satisfactory way of examining the question, first to consider where it was most likely the Temple stood and then to investigate the relative bearing of the outer walls of the Haram Enclosure. And it appears to me that, when the position of the Temple is so examined, it will be found that it is most improbable that any one of the present outer walls formed any part of the circuit of the original Sanctuary of the Mountain of the House of God.

The materials which we have at our disposal for considering the subject may be included under the following heads :—

First. The written evidence of the description of the Temple and its courts in the Mishna, and in the histories of Josephus, supplemented by the Biblical record and some short notices by certain historians.

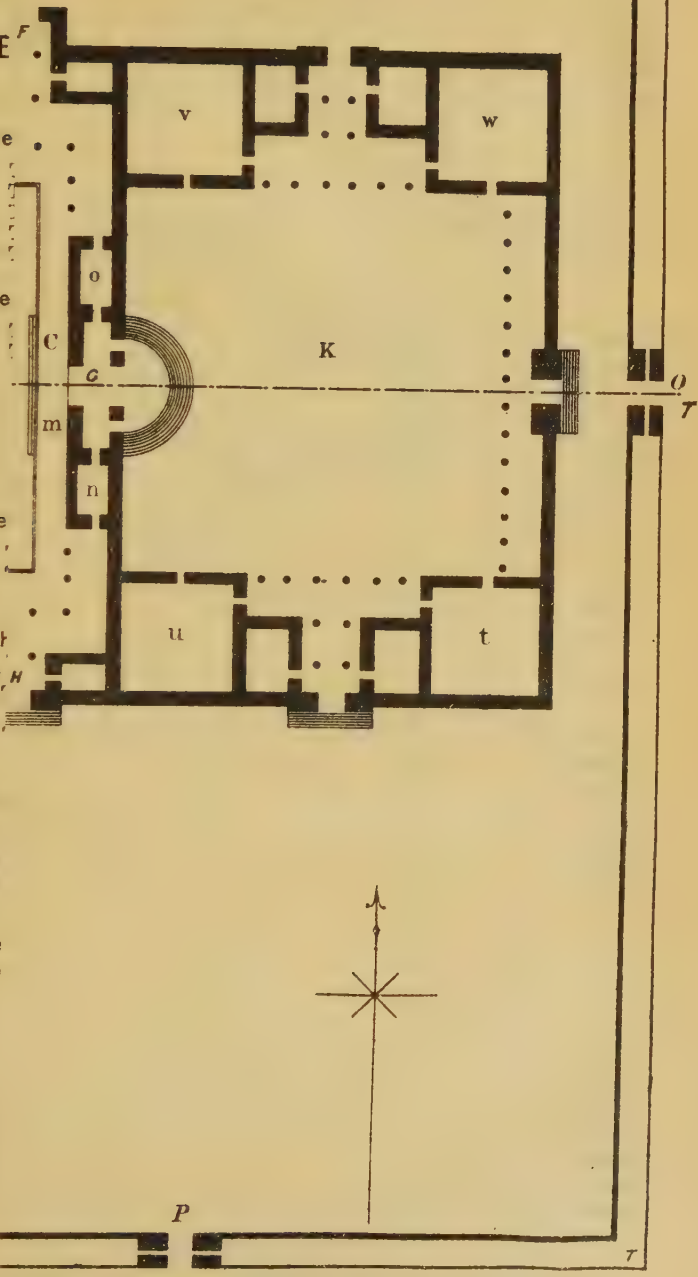
Secondly. The plan of the Haram and the buildings which it contains, as accurately mapped out under the direction of Sir Charles Wilson.

Thirdly. The levels of Mount Moriah, as it originally existed before Solomon began to build the Temple. These levels are known with a very fair degree of accuracy, thanks to the careful explorations of Sir C. Wilson, Sir C. Warren, Colonel Conder, Mr. Schick, and others.

The writings enumerated under the first head should be assumed to be true unless they can be proved to be false, while no theory that is in opposition to the facts proved by survey and careful exploration can possibly be accepted as sound.

There is one point which should be alluded to, as it has apparently been the cause of mistakes in the study of the question, and that is the use of the word "Temple." This is sometimes applied to the Holy

TEMP



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House itself, sometimes to all the buildings included in the Sanctuary, and occasionally even to the entire area, comprehending the Outer Cloisters and the Court of the Gentiles, as well as the buildings within the Sanctuary. In the following pages I therefore propose to adhere to the following nomenclature, in order to avoid any risk of being misunderstood, and will use the terms given below, commencing from the Temple and working outwards :—

1. The Temple, consisting of the Holy of Holies, the Holy Place, with the chambers over, and on each side of them, and the Porch.
2. The Court of the Priests, surrounding the Temple, in which court were the Altar, the place for killing the sacrifices, and certain chambers used in the holy service.
3. The Court of Israel.
4. The Inner Cloisters. (The Court of the Priests, the Court of Israel, and the Inner Cloisters were all included under the general name of the "Inner Court.")
5. The gates of the Inner Court, of which there were seven, *i.e.*, three on the north, three on the south, and one on the east. There is a remark in the Mishna, which seems to imply that there were also two small gates or doors on the west, but the existence of these is improbable, and is emphatically denied by Josephus.
6. The Court of the Women, to the east of the Inner Court.
7. The Gates and Chambers of the Court of the Women. There were three gates, one on the north, one on the south, and one on the east, and four open chambers, one at each of the four corners.
8. The Outer Court, called the Chel, surrounded by a wall.
9. The Gates of the Outer Court, one on the north, one on the east, two on the south, and one on the west.
10. The Mountain of the House, or Sanctuary—which included the Temple and all the courts mentioned above. The term Mountain of the House is also applied to the line bounding the Sanctuary on its four sides, as well as to the area included within it.
11. The Court of the Gentiles. This was divided from the Mountain of the House by a low wall, called the Soreg, which none but Jews might pass.
12. The Outer Cloisters. These consisted of—
    The Royal Cloister, on the south.
    Solomon's Porch, on the east.
    The Northern Cloister.
    The Western Cloister.

The description in Josephus include the whole of the above, while the descriptions and references in the Mishna give no account of either the Court of the Gentiles or the Outer Cloisters, and deal only with the Mountain of the House, or Sanctuary, and the buildings contained within it. This is a point of great importance, and is, I think, sometimes overlooked in dealing with the question. It is rather to be regretted that

in the Middoth and the Beth Habbechereh there are no details respecting the Outer Cloisters, as they would have been very useful to check the account in Josephus; but it is evident that the authors of these books cared only for the Sanctuary, and did not pay any attention to the courts and buildings which were not included therein.

It appeared to me that the most satisfactory manner of investigating the question was, in the first place, to make a plan of the Sanctuary from the written descriptions, adhering rigidly to the dimensions so accurately stated in the Mishna, and also to those in Josephus, which are sometimes less accurate, but generally to be reconciled with the former; secondly, to find how this plan will best fit upon a contoured plan of Mount Moriah, supposing it to be stripped of all existing buildings; and lastly, to find out how the plan, so fitted to the ground, will agree with the outer walls of the Haram enclosures as now existing, and with the description of the Outer Cloisters, as given by Josephus. No restoration of the plan of the Temple and surroundings can possibly be regarded as satisfactory unless it meets the three conditions: of being in accurate accord with the written description; of fitting upon the Mountain; and of not contradicting in any particular what actually exists at the present time.

There are doubtless some discrepancies as regards dimensions between Josephus and the Mishna, but these are not of a serious character. Some rather important points, which one would be very glad to know, are omitted, and in some cases we have description without dimensions, and dimensions without altogether satisfactory description. But it is not difficult, on the whole, to reconcile these; and there are many most valuable hints given indirectly both in Josephus's histories and in the accounts of the Jewish religious ceremonies in the books of Yoma and Tamid, which afford considerable assistance in completing the plan. There are certain details respecting which we are left in ignorance, and these it is necessary to fill in in the manner that appears the most probable, taking great care that, in no respect, are they in contradiction to any of the old authorities. This is the best that can be done.

I do not propose to allude to any modern authorities upon the Temple buildings, as it would take too long, and it would be necessary to discuss the pros and cons of various theories. As stated above, I prefer to deal with the question only with the aid of the ancient authorities, and with the results of modern explorations.

There is one matter that naturally forces itself on our notice. What was the length of the Jewish cubit which was used in the construction of the Temple? It is a point upon which a good deal has been written, but which does not appear as yet to have been solved in an absolutely conclusive manner, although several writers seem to have no doubt about the result of their investigations. After reading all I could respecting this question, it appears to me that the cubit used was that of about 18 inches. Possibly it was rather less, say 17·7 inches, but this is not certainly proved, and I have adopted a cubit of 18 inches in making the plan. A somewhat

smaller cubit would perhaps have given slightly more satisfactory results, but that of 18 inches is good enough for practical purposes, and has the advantage of easy reduction to measures that are given in feet.

Plan No. I shows the buildings of the Sanctuary as described in the books of Josephus and in the Mishna, and will, I hope, be found to agree satisfactorily with these if compared with them. To the western side of the Inner Court stood the Temple itself, built of the most substantial masonry and having its floor 6 cubits above the level of the court in front of it. These 6 cubits were made up by a foundation let into the rock so as to form a solid mass with the latter. The walls on each side of the Temple were triple, *i.e.*, an outer wall of 5 cubits, then a space of 3 cubits for the ascent which went round to the upper rooms, then a wall of 5 cubits and a mean space of 6 cubits, in which were the little chambers, followed by another wall of 6 cubits. The total thickness of the side walls of the building was therefore 25 cubits (37 feet 6 inches). The west wall was 17 cubits broad, composed of two walls 5 and 6 cubits thick respectively, with a mean space of 6 cubits between them. I say a mean space, because this space varied on each of the three stories of the small chambers, being 5 cubits on the lower story, 6 cubits on the second story, and 7 cubits on the third story.

In the centre of these walls was the Temple Chamber, 61 cubits long, 20 cubits broad, and 40 cubits high. Of this a length of 20 cubits was cut off at the west end to form the Holy of Holies, and was separated by a space of 1 cubit from the Holy Place. The little chambers have been drawn exactly as described in the Middoth.[1] They received light and air from an opening in the ceiling of each. The way to the upper chambers was by a staircase between the outer walls, as shown in the plan. Over the Temple Chamber was a large upper room of the same length, breadth, and height as the Holy Places. In front of the Temple was the porch, having a total width of 100 cubits, with a central entrance 20 cubits wide and 40 cubits high. One cannot help thinking that this porch must have greatly resembled the pylon of an Egyptian temple.

The axial line of the Temple was directed on the summit of the Mount of Olives, so that the priest who slaughtered the red heifer, on the top of that mountain, could see directly into the interior of the Temple.[2] This fact is of great help in enabling us to fix the direction of the Temple buildings, as I shall show hereafter.

As the foundation of the Temple was 6 cubits deep, and as the steps leading up to it were each $\frac{1}{2}$ cubit high, there were twelve steps, which were disposed in the manner indicated in the plan.

Around the Temple was the Court of the Priests, which was 176 cubits in length from west to east and 135 in width from north to south. In this court, in front of the Temple but rather to the south of the axial line, stood the Altar of Burnt Offering, erected on the site of the threshing

[1] Middoth, Chap. iv, 3, 4, 5.
[2] *Ibid.*, Chap. ii, 4.

floor of Araunah the Jebusite, which David purchased from him as a site for the altar of the Lord. The altar, as described in the Mishna, had a foundation 32 cubits square, but the original altar built by Solomon was only 20 cubits square. The central point of this latter altar appears to have been the guiding point in laying out the boundaries of the Sanctuary of the Mountain of the House. The limits of the Sanctuary were 500 cubits on each side, and the central point of this 500 cubits is only 1 cubit distant from the central point of the altar. But if it might be assumed that the site of the first altar occupied the position shown in dotted lines on the plan, its central point would coincide with the centre of the distance east and west across the Sanctuary. It might be expected that the line passing north and south would also be similarly divided, but it appears that the distance was made greater on the south than on the north, in order to suit the form of the ground. The actual distances from the centre of the altar, as described in the Middoth, to the borders of the Mountain of the House were :—

East	....	....	....	....	251 cubits.
South	....	....	....	....	306½ ,,
West	....	....	....	....	249 ,,
North	....	....	....	....	192½ ,,

But if it is assumed that the original altar of 20 cubits side stood as shown, the distance would be--

East	....	....	....	....	250 cubits.
South	...	....	....	....	300 ,,
West	....	....	....	....	250 ,,
North	....	....	....	....	200 ,,

This may be only a coincidence, but it is worth noticing.

To the north of the altar, in the Court of the Priests, was the place allotted for killing the sacrifices. I have omitted showing the arrangements for this, so as to make the plan clearer, and would take the opportunity of remarking that there are other details which I have also omitted, as they would take too much space to describe, and would divert attention from the general arrangement of the Temple buildings.

In the Court of the Priests, and projecting into the Court of the Israelites, were six chambers, three to the north and three to the south of the Temple ; of these we have no complete dimensions, but their position and general arrangement are so clearly described that it is not difficult to place them upon the plan. They may, however, of course have been larger or smaller than I have shown them. The chambers on the north were as follows :—

The Chamber of Salt.
,, ,, ,, Parvah.
,, ,, ,, Washings.

And on the south were—

The Chamber of Wood, or of the High Priest, also called Palhedrin.
„ „ „ the Draw Well.
„ „ „ Gazith.

The latter was a large room where the Sanhedrin held its meetings. It had two entrances, one opening into the Court of the Priests, and the other into the Court of Israel, and its interior was partly in the former and partly in the latter, so that the members of the Council of the Sanhedrin who did not belong to the order of priests could sit in it without having to cross the boundary of the Court of the Priests.

On the east side of this court five steps with a total height of $2\frac{1}{2}$ cubits descended to the Court of Israel, which at this point was 11 cubits in width. The object of these steps is quite clear when the levels of the original ground are considered. It is evident from the description that the Court of Israel surrounded the Court of the Priests on the north and south sides as well as on the east, but what its width was on these sides is not stated, so I have made it 11 cubits, the same as on the east.

Outside the Court of Israel on the north, east, and south were the Inner Cloisters, but of these also the width is not given. But we are told that they were single, with only one row of pillars, and as the Outer Cloisters, which were double, were 30 cubits in width, I have made the Inner Cloisters 15 cubits broad. Adjoining the Court of Israel, and on each side of the eastern gate of the Inner Court, were two rooms, one, that of the keeper of the vestments, and the other that of the maker of the pancakes, which were used in the daily sacrifice.

There were seven gates to the Inner Court, of which the eastern and the three on the south were specially for the use of the people of Israel, that on the east being the main gate of the court, while the three on the north were more particularly for the priests and for the service of the Temple. According to the Mishna, the gates were each 10 cubits in breadth and 20 cubits high, while Josephus asserts that the eastern gate was larger than the others; and, after judging the probabilities, I am inclined to think that, in this particular, he is correct. First, because this was the main gate of the court, and, secondly, because if it was only 20 cubits high, it would have obscured the view between the summit of the Mount of Olives and the interior of the Temple (*see* Section No. 1). This gate, which was called Nicanor, also differed from the others, in that it had a small gate on either side of it. The gates on the south, beginning from that on the west, were called respectively—

The Gate of Kindling.
„ „ the Firstborn.
The Water Gate.

Flights of steps, each of ten steps, led down from these gates to the Outer Court.

The eastern gate had fifteen steps in front of it, and these were differently arranged to all the other steps of the Temple, insomuch as they were built in semi-circular form, like "half of a threshing floor." May it not have been that they were so arranged in order to keep in memory the threshing floor of Araunah the Jebusite?

The three gates on the north side of the Inner Court were somewhat different in form to those on the south. The two easterly ones, which were called Nitsus and Abtinas respectively, had large upper rooms for the use of the priests, while the third gate, called Moked, was a regular house with a large central hall, wherein the priests on duty slept, and round it four rooms, the names of which were as follows :—

North-east Room	....	The Chamber of the Stones.	
South-east „	....	„	„ Shewbread.
South-west „	....	„	„ Lambs.
North-west „	....	„	of Moked.

In the last-named room was a staircase, which led down to an underground bath room, and thence by a subterranean way out of the enclosure of the Sanctuary.

There is no account of there having been any steps outside the northern gates, and I am inclined to think there were none: first, because they were not necessary owing to the form of the ground; and, secondly, because it must have been through these gates that the animals were brought into the Inner Court for the sacrifices.

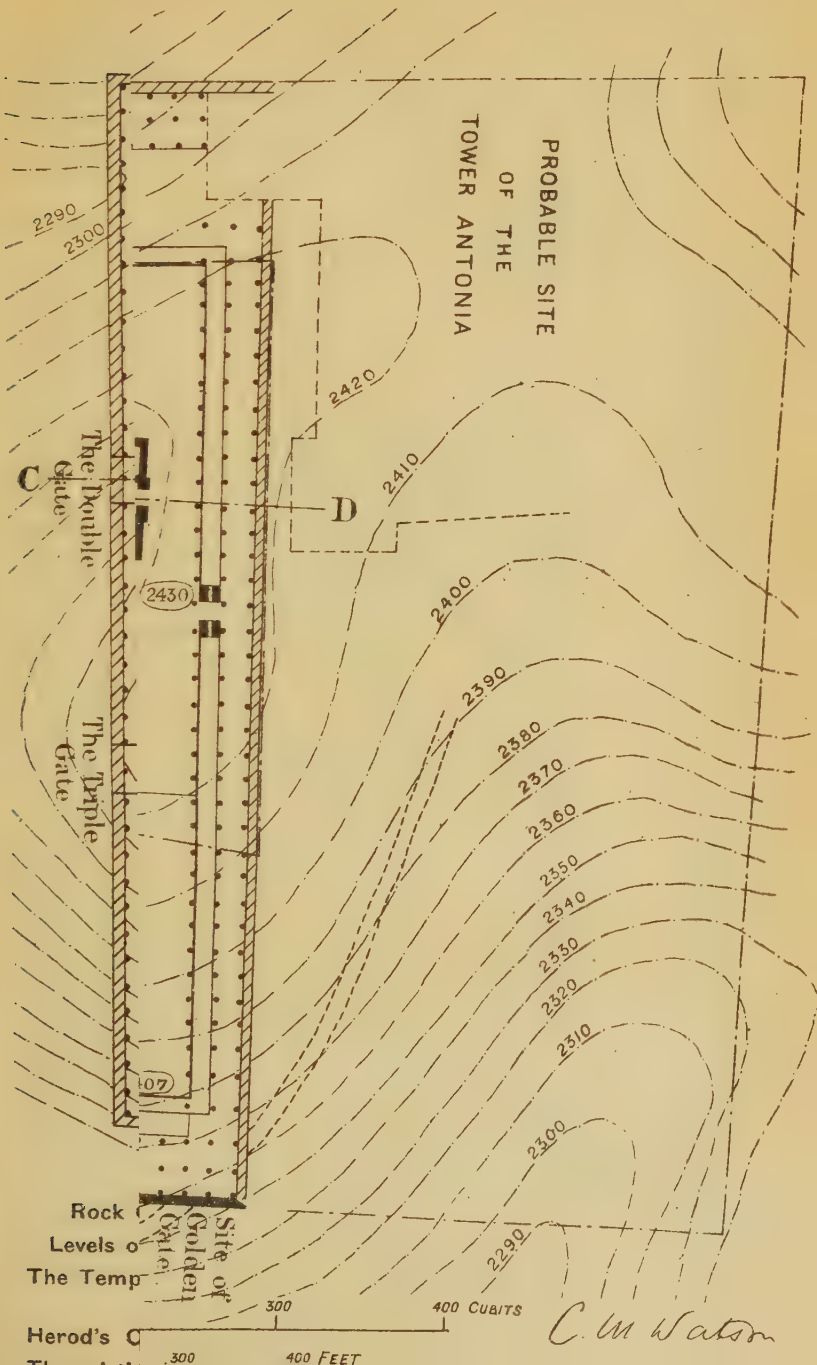
East of the Inner Court and entered from it by the Gate Nicanor, was the Court of the Women, an area of 135 cubits square. The surface was on a level of 10 cubits below the Court of the Priests, and 16 cubits below the floor of the Temple. At each of the corners was a large open court 40 cubits square which were known by the following names :—

South-east Court	....	The Chamber of the Nazarites.		
South-west „	....	„	of Oil.	
North-west „	....	„	of the Lepers.	
North-east „	....	„	of Wood.	

There were also other chambers opening into this court, and under the floor of the Court of Israel, where the Levites kept their musical instruments. These chambers were apparently made on account of the slope of the hill, to fill up to the level of the Court of Israel.

The Court of the Women had three gates : one on the east, one on the north, and one on the south, all opening on the Outer Court. The eastern gate had twelve steps, or a height of 6 cubits, leading to the Outer Court, which was therefore at a level of 22 cubits below the floor of the Temple. There were also cloisters in the Women's Court, but their position is not clearly described, so I have placed them where apparently they might have been.

PALESTINE EXPLORATION FUND. PLAN N°2



C. W. Watson

Outside the enclosure formed by the Inner Court and the Court of the Women was the Outer Court, which had a wall round it, a little inside the boundary of the Mountain of the House. This court had five gates, as follows :—

On the east	....	....	....	The Gate Shushan.
„ south	....	....	....	„ two Huldah Gates.
„ west	....	....	....	„ Gate Kipunus.
„ north	....	....	....	„ Gate Tadi.

Of these, the Gate Shushan was directly opposite the eastern gate of the Court of the Women, but the position of the other gates is not clearly described. I have placed the two southern gates at a distance of one-third from the east and west ends of the southern boundary of the Sanctuary respectively, an arrangement which receives strong confirmation, as I shall explain later on. The west gate is not likely to have been in the centre of the west side, as it would have been opposite the blank west wall of the Inner Court, so I have placed it at the same distance from the south-west corner of the Sanctuary as the Western Huldah Gate. The position of the Northern Gate Tadi is also not stated, so I have placed it opposite the centre one of the northern gates of the Inner Court.

The arrangement of the boundary of the Sanctuary is not very clear, but as I read the description, there would appear to have been a low wall called the Soreg round the extreme boundary, upon which were fixed the notices which warned off Gentiles from the precincts of the Temple; then there was an interval of 10 cubits, and lastly, a higher wall all round between the gates. This is, however, a point open to discussion.

It is stated in the Mishna that the Mountain of the House was a square of 500 cubits on each side, and I have so drawn it. Josephus, on the contrary, states that it was a stadium, or 400 cubits, each way, but in this I think he must be in error, as if he were right many of the accurately given dimensions in the Mishna must be wrong, and also the levels as given by Josephus himself. Possibly the explanation may be that he was thinking of the distance from the Gate Shushan on the east to the western wall of the Inner Court, as this distance was 405 cubits; or he may have been speaking in a general way, just as a person might say that a certain street was a quarter of a mile long, which really measured 500 yards. But however this may be, having regard to the description given in the Mishna, to the other dimensions given by Josephus, and to the shape of the hill itself, it is impossible to accept the dimension of a stadium for the length of the side of the Sanctuary.

We have seen that the level of the Outer Court at the Gate Shushan was 16 cubits below the level of the Court of the Priests. The level at the Huldah Gate appears to have been a cubit higher, as, at this point, according to Josephus, the ground was 15 cubits lower at the border of the Mountain of the House than the level of the Inner Court, and there

were steps of 5 cubits each to adjust the level.[1] As there was a drop of 5 cubits from the southern gates to the ground outside, two other steps of 5 cubits each were necessary to complete the total height, and, on fitting the plan of the Temple to the ground, it appears that this is exactly what is required (*see* Section No. 2). The remark of Josephus about the steps of 5 cubits, though apparently rather puzzling, is really a considerable help in understanding the question.

Before discussing the Court of the Gentiles or the Outer Cloisters, it is necessary to see how the plan of the buildings of the Sanctuary, which I have very briefly described, can best be fitted to the surface of Mount Moriah as it originally appeared in the time of David, before the foundations of the Temple were laid.

Plan No. 2 shows the rock levels of the mountain as determined by the explorations of Sir C. Wilson, Sir C. Warren, and others. They may not be exactly correct, and further discoveries may probably modify them in some respects; but they cannot be very greatly in error, and are certainly sufficiently accurate for the question under discussion. Having reduced the plan of the Temple, made as already described to the same scale as that of the contoured hill, I proceeded to consider what part of the hill the Sanctuary was most likely to have occupied, and, after a careful study, arrived at the conclusion that the only way by which all the different fixed conditions of the problem could be met was by placing the Temple on the site of the present Dome of the Rock with its floor over the Sakrah. If we try to place it anywhere else in the Haram Enclosure, we are met by apparently insuperable difficulties. If, for example, we place it in the south-west corner of the Haram, as so strongly advocated by Mr. Ferguson, we find that the foundations of the Temple, so far from being 6 cubits, or 9 feet, in depth, would be over 80 feet in depth, which certainly appears difficult to credit. If we place the altar of burnt offering on the Sakrah, as some have supposed, we get the surface of the altar at a level of 2455, and consequently the floor of the Temple at 2449. But the altar being on the Sakrah, the back wall of the Temple will come over the contour 2400, and the foundation would therefore be nearly 50 feet deep. And it is the same, wherever we try to place the Temple, except in the position where its floor is over the Sakrah, and here there is no difficulty either with the plan or the levels. Here only are all the conditions satisfactorily met, and I have therefore in Plan No. 2 shown the Temple and its courts with the Holy of Holies over the Sakrah. As regards the level of the floor of the Temple, there seems no reason for supposing it was built much above the rock, and I have therefore shown it as having the level 2440. Perhaps it may savour too much of a theory, but one cannot help thinking that it is possible that the Sakrah was the Sheteyah, the rock of foundation, upon which the Ark was placed. At all events it must have been at some point near the top of the Sakrah.

[1] Josephus "Wars," Book V, Chap. v, 2.

But having thus placed the Temple over the Sakrah, we meet with the important question as to the direction of its axis. It faced the east, but whether it faced east exactly, or a little to the north or south of it, would be difficult to prove were it not for the statement repeated several times in the Mishna, which I have already alluded to, that the priest who sacrificed the red heifer on the summit of the Mount of Olives, could see over or through the eastern gates of the three courts, into the interior of the Temple itself. The axial line of the Temple and its courts I have therefore shown as directed on the highest point of the Mount of Olives. There is a remarkable confirmation of this direction for the axial line in the fact that it is at right angles to the eastern wall of the Haram, which wall, or at least its foundation, seems generally regarded as one of if not the most ancient of the enclosure walls. It was on this wall that stood the old cloister, known as Solomon's Porch, which, as Josephus tells us, was built opposite to the east wall of the Temple Enclosure. If, as some have supposed, and as appears very probable, the Palace of Solomon was at the south-west corner of the Haram Enclosure, then this cloister would be in the exact position for the royal approach from the palace to the main entrance to the Temple. Allowing a width of 30 cubits for this double cloister and a thickness of 6 cubits for its outer wall, there is left a width of 20 cubits between the cloister and the boundary of the Sanctuary.

There could not have been any special difficulty for the architects of the Temple in laying out the Inner Court, but the laying down of the quadrangle of 500 cubits could not have been so easy. It is a well-known fact in solid geometry that a right angle lying on an inclined plane, with *both* its sides at an angle with the horizontals of the plane, will be in plan greater than a right angle. Mount Moriah had steeply sloping sides, and both the south-east and south-west angles of the Mountain of the House are in the position of a right angle as mentioned above. Unless, therefore, the architect of King Solomon was provided with an instrument of the nature of a theodolite, which measures horizontal angles and vertical angles at the same time, he would not have found it easy to lay out on the ground a figure of which each side was exactly 500 cubits in length, and each angle exactly a right angle. The fact that the south-east angle of the Haram Enclosure, which was probably laid out in the time of King Solomon, is also considerably greater than a right angle, and is also on the slope of the hill, is a confirmation of the same idea.

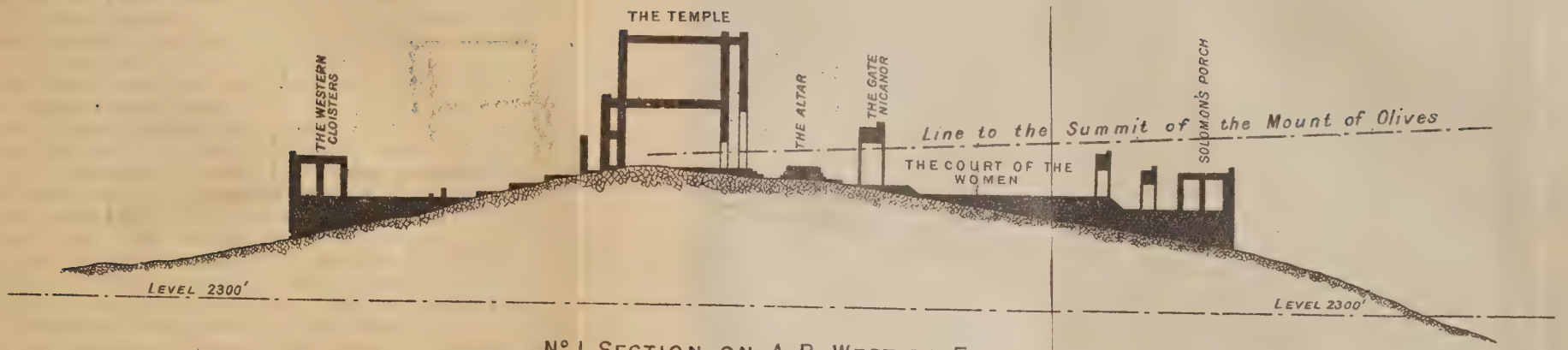
Let us consider how the Sanctuary would probably have been laid out. The centre point of the altar was probably fixed first, and then the axial line of the Temple passing through the highest point of the hill, and the highest point of the Mount of Olives was traced upon the ground. A line parallel to this, drawn through that fixed for the centre point of the altar, would give the centre line, and marks made upon this, one 250 cubits to the east and the other 250 cubits to the west, would fix the boundary of the Sanctuary in these directions. A line at right angles to

the first would also have the distances marked on it, 300 cubits to the south and 200 cubits to the north. It might be asked why these were not also made 250 cubits each. I am inclined to think that this was done to suit the shape of the hill (*see* Plan No. 2), and it is possible that there may have been an old road coming up from the valley of the Kedron, and passing by the point (afterwards occupied by the Golden Gate), over the hill to the north of the Sakrah, which it was desired to have uninterrupted. I have shown the possible positions of this road in dotted lines on Plan No. 2. The next step would have been to set off a perpendicular at the east end of the central line, and from a point on this line about 300 cubits to the south, to set off a right angle to the south point already fixed. But this angle would, as I have already shown, be in plan slightly obtuse. Proceeding in a similar manner, the rest of the boundary of the Sanctuary would have been laid, and must have been somewhat as I have shown in Plate 2. I do not say it is exactly correct, but it is the best way in which I can lay a quadrangle on the steep ground, of which the sides are approximately 500 cubits in length, and the angles as nearly as possible right angles, *on the ground*. The gates of the Mountain of the House are placed as already described.

Having thus shown how the buildings of the Sanctuary might have been disposed on Mount Moriah, the next step is to see what their position would be with reference to the existing walls of the Haram Enclosure. The probable restoration I have also shown on Plan No. 2, whereon the Outer Cloisters, added by King Herod, are drawn in hatched lines. It will be seen that the two Huldah gates on the south side of the Sanctuary come just opposite to the passages leading from the Double and Treble gates in the south wall of the Haram, while Barclay's gate, on the west side of the latter, leads up to the road from the west Huldah gate, *outside* the Mountain of the House. Wilson's arch, which is most probably on the site of an old road leading to the Temple Enclosure, is opposite to the western gate of the latter. The Golden Gate, with its double entrance, comes just opposite to the north-east corner of the Sanctuary, and there is room for a road to lead down to it from the east gate of the latter, between it and Solomon's Porch. It seems to me possible that the double entrance at the Golden Gate is a traditional restoration of the original gate built by Solomon, of which the south door would have served the use of the Temple, and have been that by which the red heifer was taken out to the Mount of Olives, while the north portal was that used by people coming up from the Valley of Kedron and proceeding north of the Temple Enclosure towards the west. In this case the Cloister of Solomon's Porch would have passed over the top of the gate.

As I have already stated, the probable position of Solomon's Palace was at the south-east corner of the Haram, and it would have occupied the square space of 200 cubits side, bounded by the south and east walls of the Haram, by the road from the Triple Gate on the west, and on the north by the road leading round the Sanctuary outside. That such a

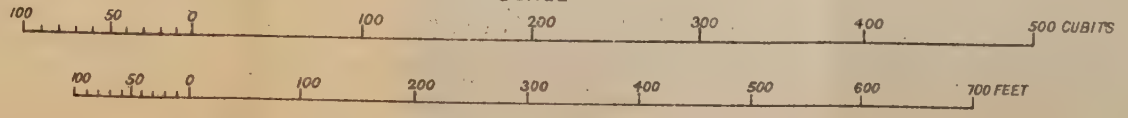
SECTIONS



No. 1 SECTION ON A.B. WEST TO EAST.

No. 2. SECTION C.D. SOUTH TO NORTH.

SCALE



road existed is clear from the statement in the Mishna, that the Sanctuary was not to be used as a short cut, and that persons, who did not come to worship, were to go round it outside.

The space of 200 cubits by 150 cubits between the Treble and Double Gates, may have been occupied by the private apartments and hareem of King Solomon, separated from the House of the Forest of Lebanon, his official residence, by the road from the Treble Gate; the latter, or, of course, an old gate on the site, being the public entrance to the palace. If this theory is correct, the great course on the south wall may be the base of the palaces of Solomon.

The roadway from the Treble Gate to the Sanctuary starts on the ground level, but the rock under the Double Gate is about 30 feet lower, so that at some period the ground outside must have been brought up to the level of this gate. Perhaps the outer surface from the Double as far as the Single Gate may have been levelled up when the palaces of Solomon were built. We have no information as to the state of the ground at the south-east angle at the time when Herod built the Royal Cloister on the south wall, but it seems probable that it was at that period that the roadways leading up to the Sanctuary from the Double and Treble Gates were roofed in. It was possibly at the same period that the west wall and Western Cloister were built, and then the road leading up from Barclay's Gate had also to be covered over. I have shown the Royal Cloister as continuous up to the south-east corner of the Haram, but it is possible that it stopped at the Triple Gate. This point is uncertain.

The Western Cloister was built from the south-west corner to the Tower of Antonia. According to the account in Josephus there were four gates leading to the enclosure on this side.[1] Of these, one was doubtless the great flight of steps leading up to the west end of the Royal Cloister, and one the causeway leading up to and passing under the West Cloister at Barclay's Gate. Another entrance was at the point where Wilson's arch now is, which probably led from the Royal Palace in the City of Jerusalem. The question of the structure and levels of the gate at this point is a very interesting one, but is too long to discuss here. It may have been over or in front of this gate that John, the defender of the Temple against Titus, built the tower alluded to in Josephus's account of the Siege of Jerusalem. The position of the fourth west gate of Josephus is uncertain, but it also may have been a passage under the West Cloister, similar to that at Barclay's Gate, and at the point where Cistern No. 30 was discovered. This I have shown in dotted lines. The position of the fourth gate is, however, doubtful.

The North Cloister encroached upon the north boundary of the Mountain of the House, the wall of which had to be taken down to build it. Its face probably was on the same line as the north wall of the platform of the Dome of the Rock. When the cloister was built,

[1] Josephus "Ant.," Book XV, Chap. xi, 5.

the Gate Tadi, the north gate of the Sanctuary, appears to have been closed and replaced by an underground passage passing under the cloisters, and represented at the present time by Cistern No. 1. The Northern Cloister, like the Western, ended at the Tower of Antonia, the probable approximate position of which I have marked in dotted lines. There is a statement in Josephus which appears to confirm this proposed restoration of the Temple, as he mentions that the addition of the Outer Cloisters doubled the area of the Temple Enclosure.[1] Now the area, as enclosed by the four Outer Cloisters as shown on Plan No. 2, is rather more than 480,000 square cubits, and the area of the Sanctuary was 250,000 square cubits; so that the one, speaking roughly, is just double of the other.

In the sections, I have shown the manner in which the Temple buildings, with the levels given in Josephus and the Mishna, compare with the rock levels, as determined by exploration. These sections will explain, better than any verbal description, how well the one corresponds to the other, if the site of the Temple on Mount Moriah, which I have suggested, is accepted. I would add that in this paper I have treated the subject in a general manner only, as to enter into all the details which had to be considered in preparing the plans would make it a great deal too long. As I have stated before, my effort has been to prepare plans, which would be in accord with the historical documents, and also with what exploration has shown to be the actual facts.

THE SYRIAN LANGUAGE.

By Lieut.-Colonel C. R. Conder, R.E., D.C.L., &c.

In Hezekiah's time the Syrian or Aramean language differed from Hebrew (2 Kings xviii, 26); and the discoveries due to the German explorations of 1888-91, which have just been published, cast a remarkable light on this subject. The site excavated, now Sinjirli, is the ancient Samâla, situated east of Issus, on the highway from Carchemish to the Gulf of Alexandretta, and north-west of Aleppo, in the extreme north of Syria. The old name itself appears to mean "the north," and often occurs in Assyrian texts. Here, in addition to a magnificent stela of Esarhaddon holding captive the King of Egypt and another prisoner, were discovered statues of basalt covered with inscriptions in the Phœnician alphabet, the letters cut in relief. Of these the earliest appears to date about 800 B.C., and another about 730 B.C.; and the forms of the older letters are very closely those of the Moabite stone. The contents are of historic value; and the language—which approaches the Moabite, Phœnician, and early Aramaic rather than the Hebrew—is of great interest. The later text

[1] Josephus "Wars," Book I, Chap. xxi, 1.

has been translated (with omissions) by E. Sachau; but the older text is less fully treated. Excellent fac-similes of both render the study of the original comparatively easy. The following appears to me to be the transliteration, the words being clearly divided by dots :—

I.—*From a Statue to Hadad by Panammu I. Circa* 800 B.C.

1 אנך פנמו בר קרל מלך יאדי זי הקמת נצב זן להדד בעלמי

2 קמו עמי (?א)תהו הדד ואל ורשף ורבבאל ושמיש ונתן בידי הדד ואל

3 ו רבבאל ושמש ו רשף חטר חלבבה וקם עמי רשף פמז אחז

4 ביד ....מ(ת)פל(ח)...ו מז אשב ....(מ)אלה.. יתנולי ושנם (?עלויו)

5 ..... לו ארק שערי האל

6 .....ארק חטי וארק שמי

7 וארק .....אז בקרת עמי...ד...ר יעבדו ארק וכרם

8 שם יש .....ם פנמו גם ישבת על משב אבי ונתן הדד בידי

9 חטר חל(בבא).....ת חרב ולשן מן בית אבי ו בימי גם אכל ו שתא (?ארוי)

10 בימי יתמר רפ....קו לנצב..ימת ו לנצב זברי ולבני כפירי חלב(ם) ש...ם יקה

11 אשרו קה....נ...ב אל ו רבבאל ו שמש וארק רשף ו כבדו נתנה לי ו אמ(?רמרת)

12 ... בימי חלב(?בה)...ת הבלאלהי ומת יקחו מן ידי ומה אשאל מן אלהי מתית

13 לי ו ארקו ומ....קרל אלהי מת פלו נתן לו כתן הדד מת ל(?מנ)ת יקרני לבנא ובה לבבתי

14 נתן מת (?העמ)....(?ל)בנא (?מ) בנית מת...ו..קמת נצב הדד זן ו מקם פנמו בר קרל מלך

15 יאדי .. מן (?אן) ח .. פנמו בן יאחז (חט)ר ו ישב על
משבי ויזעד אברו ו יזבח

16 הדד זן (?ו יאב .. סב) משי ו יזבח ..... נדבא יזבח הדד
ו יזכר אשם הדד או

17 הא פא יאמ ..... נבש פנמו עמך ותש .... נבש פנמו
עמך עה יזכר נבש פנמו עם

18 ?הא)ר ..... בא (?רק) זא יתן .... רקו יה שאל
הדד ולאל ו רכבאל ו שמש

19 .... תן ..... ב ..... (?אר)ק זא י .... ה ו הושבת בה
ירחי ו רתבבת ב חנאת

20 ..... נתנו לי זרע חבא .... ובני יאחז חטר ו ישב
על משבה מלך

21 עט (?ומחא) ו יסעד אברו ו י .... ה ... ר אשם פנמו
ו אמרתן ל כבשו (?עם)

22 עם הדד ו תשתי נבש פנמו עמ (ך הא) .... חהן
זבחה ו אל ירקו בה ומז

23 ישאל אל יתן לה הדד ו הדד חרא ליתן ה ....
אל יתן להלאך לבור ז

24 ושמה למנע מן הבלילא ורבה מתן לה ..... ב ..... יח
.....

25 יאחז חטר ביאדי ו ישב על משבי ז ימלך .. .. יח
ידהבחרבב ..... י או

26 .... יח סאל יהרג או ברגז או על ... או ... יומו
מתאו על קשתה או על אמרתה

27 ..... חה ירשי שחת ראשי חרזי חיה או באשר
הזמו בחיה או באשר

28 חרה איח(ה) ..... יבשי שחת יגמר (?סא .. ריה)ז
... רי ויקמותה במאה מתושה

29 יאמר אחכם השחת הנ ..... מא יריה לאלה אבה משה
יאמר הו אם שמת אמרת אל בפן

30 זד אמר קם עיני או עלה או ..... ני בפן אנש ז... צרי
נתנו זכר הא לתפן בר איחה

31 זכרו פלכתשה באבני ו הנור ..... (?מ)בר איחי פלכת־
שנה באבני והנר לושחת

32 באשרה ו תלעי עינך בא .. ר(?ד) ..... על קשתה או
על גברתה או על אמרתה

33 או על נדבה את פא ישר הא(הד)ד .... (?רש) ... .
או תהרגה בחמ ..... חפא או

34 תחק עליה או תאלב אש יהרגה .....

This is written on a pillar with a man's (or God's) head wearing a soft round cap, bearded but without moustache, in the Phœnician fashion. The three great breaks in the stone leave long gaps in the text, but many parts are very clear, and the meaning certain.

The translation appears to me to be as follows :—

(1) I am Panammu son of Karal King of Yadi. I have set up this statue to Hadad my master.

(2) My people are his Hadad both God, and light, and Cherub, and Sun ; and there is given to my hand by Hadad the God,

(3) and Cherub, and Sun, and light, the Sceptre of Aleppo ; and he has been to the people a light : wherefore he has received

(4) at my hands . . . . much worship ; and therefore I sit . . . . (the supremest prosperity ?) is given me by my God.

(5) . . . . . is it not a land of barley . . . .

(6) . . . . . a land of wheat, and a land of (oil ?)

(7) and a land . . . . the care of my people . . . . they till the land, and the vineyard.

(8) A name he . . . . Panammu. Moreover I sit on the seat of my father ; and Hadad has given to my hand

(9) the sceptre of Aleppo. The . . . . he has destroyed ; and may it cease from my father's house. And in my day also I enjoy food and drink

(10) And in my day a restoration is established . . . . invoking the statue . . . . and for a statue (as) my memorial ; and for the children of the villages of Aleppo . . . . has been received

(11) They have prospered . . . . the God and Cherub and Sun. And a land of glory and honor is given to me, and royal authority

(12) . . . . In my day Aleppo . . . . the godless, and much they have received from my hands. And do not I ask from my God gifts for myself, and the land

(13) and to (the son of) Karal God has given much hope. Truly Hadad has given much (wherefore ?) he is dear to me. May he bless the utterance of my wishes

(14) He has given (much to the people ?) may he bless the building much, and the erection of this statue of Hadad, and the shrine of Panammu the son of Karal, King

(15) of Yadi (and when ?) Panammu (is no more ?) his son shall receive the sceptre, and sit on my seat, and shall increase greatly, and shall sacrifice to

(16) this Hadad, and . . . . and he shall sacrifice . . . . the freewill offering, and shall sacrifice to Hadad, and shall remember the sin-offering of Hadad : if

(17) behold he (shall rule ?) here . . . . Panammu has said "(Comfort thou ?) thy people" Panammu has said "Thy people is mindful of sin" Panammu has said "The people"

(18) (Enlighten thou ?) " . . . . in this land Strengthen thou . . . . my land thereby" He has asked of Hadad, and to the God and Cherub and Sun

(19) . . . . . this land . . . . and thereby is set at rest my fear, and I have increased in devotion.

(20) . . . . to give me offspring of love . . . . and my son shall receive the sceptre, and shall sit on the King's throne

(21) a long time, and his wealth shall prosper mightily, and he shall . . . . the sin offering of Panammu, having authority to subdue the (people ?)

(22) the people of Hadad, and the rebellious. Panammu has said "Thy people (behold ?) . . . . (shall sacrifice ?) the sacrifice, and invoke God thereby. Whereby it

(23) shall ask of God. Strengthen it O Hadad : for Hadad is pure. May he strengthen it . . . . (may) the strong God send a message, may he so choose

(24) And may he keep his name from destruction, and much that is given may he make . . . .

(25) Shall receive the sceptre of Yadi, and shall sit on my seat, and shall rule . . . . skillful in war . . . . if . . . .

(26) far shall he slay : if in wrath if in . . . . if they have waxed very hot : if by his strength ; if by his authority . . . .

(27) . . . . possessing subjection of careful chiefs for life. If through this there is unity in his lifetime ; if through this

(28) the people is pure (or free) . . . . putting to shame, he shall perfect the submission . . . . and whatever is received by counsel

(29) he shall speak wisely, causing submission . . . . fearing the God of his father (in all things ?) He shall command for him thus the raising up of authority, than the former

(30) before my sight greater. If . . . . in the sight of men . . . . this my sculpture is here to give a memorial in sight of the son of his people

(31) a memorial well carved on my stone, and shewing forth . . . . for the son of my race: a goodly carving on my stone and it has shewn truly (there is) submission
(32) in prosperity, and a turning of thine eyes . . . . if by his strength, if by his might, if by his authority,
(33) if by offerings here he shall rule, lo! Hadad . . . . if there is slaughter in the . . . . refuge. If thou ordainest me it, if thou willest, it is (so): there shall be destruction . . . .

Most of the words are common, and well known in Hebrew and in Aramaic; but the following require some comment:—

Line 1. בעלַי Probably the מ is a *mimmation*, representing the old demonstrative *ma* found in Assyrian and in Sabean "This my Lord."

Line 2. רכבאל "that on which God rides." The gods are frequently represented (and especially on Esarhaddon's stela at Samâla itself) standing on various animals. The word thus answers to "Cherub."

Line 3. חלַבבה perhaps "people of Aleppo," חלב being the principal city not far off. פמז. Compare the Phœnician מז "from this." In the next line מז "thereby."

Line 4. ושנם עלויו The first word appears to have the *mimmation*. Compare the Arabic وَفْر *Copia*. It appears to be a nominative in ו which follows.

Line 6. שמי perhaps for שמני "oils" (or in the genitive "of oil").

Line 9. לשן from שאן or שן "to be quiet." He refers to the enemy leaving his house at peace. ארוי. Compare the word ריח "pleasure" on the Moabite stone.

Line 12. הבלאלהי "the godless," "those who are without God." The word אלהי appears to be Elohim used as a singular. מת found on the Marseilles tablet, and on the coffin of Eshmunazar, cannot in any of these cases mean "dead." It seems to stand for מאד "much" (Assyrian, *mad*), which suits in each occurrence.

Line 13. למנת is uncertain ("for which things"?). ובה Arabic, وَبَهَ "to indicate"—"the indication" or "utterance." לבבתי "hearts," used for "wishes," as on the Tell Amarna tablets.

Line 15. מן אן ח(ית) "from without (אין) life," *i.e.*, "when he ceases to be." אברו perhaps an adverb, from אבר "to mount up." Assyrian *abiru*, great.

Line 17. נבש Arabic, نبس and نبص "to speak." (ה)ותש Hebrew, אשה "to sustain," "solace." In the Aramaic languages ו takes the place of the Hebrew א in several roots. In this case it is an Iphtaal voice.

Line 18. האר is doubtful. Root אור.

Line 19. הושבת from שבת. חנאת (as in the next text) from the root חנא, Arabic حنا "to incline," "to lean towards." Hence to be devoted.

Line 21. עט, Arabic عاط "to be late," Hebrew עת.

Line 22. תשתי from שת "contention," ירקי. Compare the Arabic رقى "to make an incantation," "to cry aloud."

Line 23. לבור. Hebrew בור "to search," and ברר "to choose."

Line 26. סאל. Compare the Arabic سأل "to spread out."

Line 27. חרזי. Arabic خرز "he took care." חזמו, Arabic حزم "to be firmly bound together." A nominative in ו.

Line 28. איחה. This word often occurs, and seems in each case to mean "a people." Perhaps connected with אח "brother."

Line 28. יקמותה במאה מתושה. From קמו "to gather," מא "what," and ישה "to advise."

Line 29. משה (from מ and ש "in the things?")

Line 30. אמר from נמר "to see," "the sight of my eye," קב meaning "before." צרי from צרה "to carve," or a cognate root. נתנו from תנא "to give," or perhaps "this (is) my carving, to give (נתן) a memorial."

Line 31. זברו a noun in the nominative singular in ו. פלבתשה. From פל "admirable" and בתש.

Line 32. תלעי from תלע, Arabic تلع "to stretch out," "to draw up." Perhaps the meaning is "turning away thine eye from rebellion" (אמרדה).

Line 34. תאלב, Arabic ألب "he loved" or "he moved": "if you will" or "if you urge." The concluding sentences attribute all that happens to Hadad. The text is as long as that of the Moabite stone, and was written not more than a century later, as will be shown below.

II.—*From a Headless Statue of Panammu II. Circa* 730 B.C.

1 נצב ן שם בררכב לאבה לפנמו בר ברצר .....
.... שנת פלט בי .....

2 אבה פלטוה אלה יאדי מן שחתה אלה חות בבית אבה
ו קם אלה ח ..... ש .. על ..... שחת ....

3 בבית אבה והרג אבה ברצר והרג שבעי ::: אזחי
אבה ... ס ... אל רכב והג .... בך עלם .... בעל
..... שחלא ..... מת ...

4 ו יתרה מת מלא מסגרת והכבר קירת חרבת מן קירת
ישבת ו .....ק ....ש .....תשם ...
5 חרב בבית ו תהרגו חד בנו ו אגם חוית חרב בארק
יאדי ו ח...ת לפנמו בר קרל את פן אבי ו בן בנו
אבד ....
6 שאה ו שורה ו חטה ו שערה ו קם פרס בשקל ו
(?שטרב) ....בשקל ו אכן משת בשקל ו יבל אבי
.....
7 עד סלך אשור ו מלך ה על בית אבה ו הרף אבן
שחת מן בית אבה ...מן אצר ....א .....אבי מן
ב.....
8 ו משש מסגרת ו הרפי שבי יאדי ו ....בי ו הרפי נשי
בס ....בא בית קתילת ו קנוא .....
9 בית אבה ו היטבה מן קדמתה ו כברת חטה ו שערה
ו שאה ו חורת ביומי ו אז אכלת ...ות .....
10 זלת מוכרו ו ביומי אבי פנמו שמ מת בעלי כפירי ו
בעלי רבב ה ...אבי פנמו במצעת מלכי כבר .....
11 בי לו בעל כסף הא ולו בעל זהב בחכמתה ובצדקה פי
אחז בבנן מראה מלך אשור ר..... ...
12 אשור פחי ו אחי יאדי ו חנאה מראה מלך אשור על
מלכי כבר בר ....
13 ב גלגל מראה תגלת פלסר מלך אשור מחנת ...מן
מוקה שמש ו עד מערב .....
14 רבעת ארק ו בנת מוקא שמש יבל מערב ו בנת מערב
יבל מו(קא ש)מש ו אבי .....
15 גבלה מראה תגלת פלסר מלך אשור קירת מן גבל
גרגם .....ואבי פנמו ברב .....
16 שמר(?ו) ו גם מת אבי פנמו בלגד מרא ה תגל ת פלסר
מלך אשור במחנת יכ .....
17 ובביה איח ה מלכו ובביתה מחנת מראה מלך אשור
כלה ולקח מראה מלך אשור .....
18 נבש ה והקם לה מבני בארה והעבר אבי מן דמשק
לאשר ביומי שר .....

19 יה ביתה כלה ו אנכי ברכב בר פנמו ... ..ק אב
ובצדקו הושבני מראי מלך א(שור) ...
20 אבי פנמו בר ברצר ושמת נעב זן ....י לפנמו בר בר
צר ובנית בט .....
21 ו אמר במשות ו על יבל אמן יסמת מלך (אשו)ר ו
יבל יו..א קדם קבר אבי פנ(מו) ....
22 ו זכד זנה הא פא הדד ו אל ו כרב אל בעל בית ו
שמש וכל אלהי יאדי .....
23 י קדם אלהי ו קדם אנש.

A good translation by Sachau has been published, but he leaves out certain sentences and words which it is here proposed to consider :—

(1) This statue has been set up by Bar Racab to his father, to Panammu son of Bar Tsur . . . . the year of deliverance by the hand . . . .

(2) his father His god having delivered Yadi from subjection—the god dwelling in his father's house ; and his god has been . . . . because of . . . . subjection . . . .

(3) to (or in) his father's house But he slew his father Bar Tsur, and slew seventy of his father's kindred . . . . the cherub, and he . . . because he had turned away . . . . the Lord . . . . a lion . . . .

(4) and very long imprisonment remained for him, and he made ruined towns more than inhabited towns . . . .

(5) . . . . . the sword in the house, and slaughter of one son, and loathing of life ; the sword in the land of Yadi, and (during the lifetime ?) of Panammu the son of Karal before my father, and his son's son (there was) destruction . . . .

(6) Flocks and herds and wheat and barley, and there was division by measure, and . . . . by measure, and hoarding of debt by measure ; and truly my father . . . .

(7) until the time of (or, to) the King of Assyria, and he made him King over his father's house, and broke the stone of subjection from his father's house . . . . from restraint . . . . my father from . . . .

(8) and diminished the imprisonment, and restored the captivity of Yadi, and . . . . my father, and restored (the debt . . . . the house of slaughter ?) and set up . . . .

(9) his father's house, and made it better than beforetime. And I have increased the wheat and the barley and the flocks and the grain in my day, and have eaten thereof . . . .

(10) (there is) cheapness of price in my day. My father Panammu established many owners of villages, and increased the owners . . . . my father Panammu was great among Kings . . . .

(11) (My father ?) was indeed owner of silver behold, and owner of gold, through his wisdom and justice He took word from the protection of his lord the King of Assyria . . . .

(12) Assyria, chiefs and brethren of Yadi, and his lord the King of Assyria favoured him ; beyond (other) Kings he was great . . . .

(13) in the eye of his lord Tiglath Pileser King of Assyria (who is obeyed ?) . . . . from the rising of the sun to the going down . . . .

(14) in the four quarters of the earth ; and who has done good from the rising of the sun even to the sunset, and has done good from the sunset even to the rising of the sun, and my father . . . .

(15) the borders of his lord, Tiglath Pileser King of Assyria towns from the border of Gurgum . . . . and my father Panammu with great . . . .

(16) moreover my father Panammu was very careful in adherence to his Lord Tiglath Pileser King of Assyria, in obedience he . . . .

(17) and his people have mourned him as King, and all who obey his Lord the King of Assyria have mourned him. And he took (as) his Lord the King of Assyria . . . .

(18) He spoke to him, and caused for him the building of a palace, and he brought my father from Damascus, to prosper in the days of rule . . . .

(19) . . . . all his house And I (am) Bar (ra)cab (for the justice of ?) my father, and for my justice, my lord the King of Assyria has placed me . . . .

(20) my father Panammu the son of Bar Tsur, and the erection of this statue . . . . to Panammu the son of Bar Tsur, and I have built . . . .

(21) and a command of offerings, and because indeed he was faithful in seeking the King of Assyria ; And truly it (rises ?) before the tomb of my father Panammu . . . .

(22) And this his memorial behold thou here O Hadad, God, and Cherub, Lord of the House and Sun, and every God of Yadi . . . .

(23) My . . . . before God and before men.

A few of the words require special notice :—

Line 3. אזחי, Arabic أَخَذَ "to be related."

Line 6. יבל Hebrew אבל "truly." In Phœnician texts אבל occurs (at Gebal) with this sense. The sense suits in the other occurrences of the word.

Line 7. הרף (not הרג) from רוף "to pound," "shake."

Line 8. קתילת may be taken as an abstract, from the root قتل

"to kill," the feminine being so used as a collective in both Arabic and Hebrew. Perhaps, however, the sense is "Restored the women . . . . of the slain."

Line 9. חורת, in Aramaic "white grain."

Line 10. זלת. Aramaic זלל "to be of little worth."

Line 13. גלגל. Aramaic גלגול "the orb" of the eye, or "pupil."

Line 13. מחנת "one bowed to," from חנה "to bow." Hence "obeyed."

Line 14. בנת from בנה "to build," בנ "to benefit."

Line 16. לגד. Arabic لجأ "he adhered."

Line 21. מישות. Compare מישאת used on the Marseilles tablet of offerings.

It may be remarked generally that the repetitions on these monuments, like those in the Tell Amarna tablets, and in Oriental texts generally, are characteristic of Oriental style. In literature such repetitions have been thought sometimes to mark the clumsy work of a compiler—which is impossible in monumental writings, and which is very commonly to be noted in modern Oriental epistles—the intention being to render the work clearer or more emphatic. Such repetition is frequent also in European literature from unskilled hands.

The subjects of interest, in connection with these texts, include the Art, Religion, Language, and History connected with these monuments, and the bearing on the Biblical records. Considering how few texts occur, written in Phœnician, at this early period, the addition to our information is very considerable.

Art.

The alphabet employed must be compared with those of other monuments. That of the earlier text is very near to the Moabite character—about 890 B.C., but that of Bar Racab's text differs considerably from the Hebrew letters of the Siloam text written a generation later. With these also we may compare the alphabet of the Baal Lebanon text which, as it mentions Carthage, should not be placed earlier than about 800 B.C., and that of Jehumelek's text from Gebal, which is thought to belong to the sixth century B.C. The tomb of Eshmunazar (third century B.C.) shows us the changes which subsequently took place in the letters used in Palestine before the general use of the square or Aramaic letters by the Jews. Some allowance must be made for individual handwriting, but the differences between the Siloam text and that of Bar Racab show how long the alphabet must have been in use.

The peculiarities of the Jerusalem alphabet, as compared with the nearly contemporary alphabet of Bar Racab, will be seen on the plate. The latter already shows, in the open loop of the *Koph*, a tendency which distinguished the Aramaic or East Semitic alphabet later, and which gave rise to the square Hebrew in time. In the Jerusalem alphabet the

Aleph is peculiar, and the *Vau;* the *Zain* is nearer to the Moabite stone, while the Samâla *Zain* is like that used in later Phœnician. The Jerusalem *Coph* has the Moabite, and the Samâla *Caph* has the Phœnician, form ; but on the other hand, the Jerusalem *Min*, and *Nun*, show later forms than those at Samâla. The Jerusalem *Pe* is nearest to the Moabite, and the Samâla *Pe* to the Phœnician. The Jerusalem *Koph* and *Tsade* are peculiar, but the *Tau* is nearer to the Moabite than is the Samâla letter, which takes the Phœnician early form.

Comparing Bar Racab's alphabet with that of Panammu I, we see the changes that occurred on the same spot, within seventy years, in the case of *Zain*, *Tsade*, and *Koph*. The Moabite is the more archaic script, from which the Syrian amd Phœnician branch off on the north, and the Hebrew on the south ; but a yet older alphabet must have existed, to account for the Jerusalem letters *Aleph*, *Vau*, *Koph*, and especially *Tsade*. This is not found, as some have supposed, in Arabia, where the oldest known texts are probably not earlier than 400 B.C. ; for the apparent mother of the Semitic alphabet was the syllabary known to us as Cypriote.

Some forty basalt slabs carved in relief were unearthed, in the great south gateway of the fort at Samâla. These (before the discovery of the inscriptions) were wrongly ascribed to the Hittites. The figures show none of the peculiarities of Hittite art or costume, with perhaps one exception, where a captive in a short jerkin, such as they wore, is represented without a beard, and held apparently by a pigtail in the hand of his captor. The other figures are bearded without moustache (like the statue of Hadad) and long robed. The style of art is a rude imitation of the Assyrian, as shown on the Stela of Esarhaddon on the same site. The weapons include bow, quiver, spear, shield, sword, and a kind of hammer. The headdress is a soft round cap. The animals include the deer and doe, a bull, and a lion. A man is represented riding a horse, which is uncommon before the seventh century B.C. In addition there are mythological monsters, including a winged lion standing erect, a human figure lion-headed, and holding a doe, or hare, and a sphynx walking, with a lion's body, wings, and the head and breast of a woman. Such monsters are very well known on Assyrian bas-reliefs. The palace appears to have been mainly built about 730 B.C., and the statue of Hadad is perhaps the earliest specimen of native style, much resembling the early Phœnician work. The sphynx, however, was a Hittite, as well as an Egyptian monster.

Religion.

The words אֵל and אֱלֹהִי may be rendered "God" and "Elohim." The chief deity was Hadad, who was worshipped also by the Syrians at Damascus, and from whom Ben-hadad took his name. Macrobius (Saturnal 1, 23) identified him with the sun, and in these texts he is called "Sun" and "Flame" or "Light," like the Phœnician Resheph. The term רִכְבָּאֵל, "Cherub," is explained by the Assyrian and Hittite

sculptures, in which the gods stand erect on various animals (the lion, horse, winged bull, wild bull, and horned gryphon); but though Hadad was the chief god, and the distributor of good and evil, we have allusion to "all the gods of Yadi." Hadad was adored by sacrifices, freewill offerings, sin offerings, and gifts. As regards other customs, we see that these Syrians buried the dead, and erected monuments at the tombs.

Language.

The language of the texts is not Hebrew, but nearly akin to the Moabite and to the Phœnician, which differed as dialects from the pure Hebrew of the Siloam inscription. The difference was not much more than that of dialects; whereas the Assyrian and the old Canaanite language of the Tell Amarna tablets differed, from the group of West Semitic tongues, as much as German differs from English. The Samâla language presents many archaic features, found also in the Sabean language of Yemen; and even approaches the Canaanite and the Assyrian in its forms, more than the Hebrew. Probably the Syrian and Hebrew languages stood to one another in the same relation now borne by the archaic dialect of the Fellahin, as compared with the purer Arabic of the tribes beyond Jordan, and of the townsmen in Palestine. But the recovery of this language is important for Biblical study, because it carries back the dialect of the Talmud and Targums (found also in Daniel and Ezra) to an early period. Thus the word *Bar*, for "son," stands side by side with *Ben*, as used in Hebrew and Phœnician. Passages of the Bible (Psalms ii, 12, Proverbs xxxi, 2), in which this word occurs have been confidently supposed to be later than the Captivity, because of the occurrence of the word—a conclusion no longer of necessity correct. So also the word ארק for "land," or "earth" (instead of ארץ), was regarded as late. It occurs in Jeremiah (x, 11), but is here found as early as 800 B.C. in Syrian.

The definite article is very rarely, if ever, used in these texts. It does not occur in Assyrian, or in the earliest Phœnician; and is usually very rare in the latter language. Nor is there any definite article in Sabean. The suffixed demonstrative (*ma* in Assyrian, מ in Syrian and in Sabean) takes its place, and is not unknown (as a *mimmation*) in Hebrew. As regards the nouns it seems possible that cases are indicated, ו nominative, י oblique, א accusative, as in Assyrian and Arabic, and that the masculine plural was י (even when not construct), and not ים as in Hebrew, and Phœnician, or ין as in Moabite and later Aramaic. In Assyrian this plural was also *i*. As regards the pronouns אנכי and אנך "I," הו "he,"[1] and the suffixed ו "my," ני "me," ך "thy," ה "his," they

[1] In the Pentateuch generally, the pronoun (third person, masculine, singular) is used for the feminine also (the feminine occurs only 11 times). The later Rabbis preserved this peculiarity, but put points to show the gender. On the monuments of Syria, Phœnicia, and Moab the feminine of

resemble the earlier languages, not giving the later Aramaic אני "I." The demonstratives זא, ז, זי, זן, are the same as in Phœnician and Moabite, as is also אנך—Hebrew אנכי Assyrian *anacu*. Respecting the verbs they appear not to possess all the tenses of the Assyrian, but the Iphtaal voice may probably be recognised, which occurs in Assyrian, and on the Moabite Stone, as well as in Arabic. The Sabean had only two tenses like Hebrew, but it possessed, like the Syrian and Moabite, more voices than Hebrew.

In vocalisation, especially the use of ז as in Hebrew (later Aramaic ד), the language agrees with the older dialects. The word זהב for "gold" is used, as in Hebrew and Arabic, instead of the Phœnician and Assyrian חרץ, which is rare in Hebrew. The dropping of the ו and other vowels also connects the Syrian with Moabite and Phœnician, rather than with Hebrew. All these and other points are valuable for the history of Biblical Hebrew, and for the comparative study of Semitic languages. Generally speaking Hebrew appears to be a more advanced and less archaic language than that of the surrounding nations. It differed entirely from the Aramaic language of the early Canaanites, but it was closely connected with that of the kindred Moabites and Edomites, with the Phœnician, and with the Syrian of Damascus, as we now see. An educated Hebrew, in the time of Hezekiah, would thus, as we now see, have found no difficulty in understanding the "Syrian speech"; and the Aramaisms of the early books of the Bible are not of necessity marks of late authorship, as they can be traced to 900 B.C. monumentally. It was long ago pointed out that the Aramaic forms are philologically older, in some cases, than the Hebrew; and the study of Sabean and Assyrian leads to the same result. It is possible that חד בנך "one son," is used for the "first son" in Bar Racab's text, just as יום אחד, "one day," is used for "the first day" in Genesis (i, 5). The dropping of ו in such words as זבך in Genesis (i, 27) we also see to be ancient, as is also the root כבש, "to subdue" (Genesis i, 28). It has been said that, on account of this word, being Aramaic, the passage is to be regarded as late (Wellhausen, Hist. Israel, p. 389), and we now see that the Syrians at least used this root as early as 800 B.C.[1] Comparative study generally

this pronoun is unknown. Clearly the Jewish Scribes have preserved a grammatical form which is not used in later Hebrew, but which is used on earlier monuments. Dr. Driver does not afford us any reason for this peculiarity, which many scholars regard as archaic. There are many nouns in Assyrian and in Hebrew which have both genders, showing that gender was not an original feature of Semitic, any more than of other languages. This and other such cases show that the Bible text has been carefully re-copied from an early period.

[1] The word *cabasu* "subdue" occurs in Assyrian. Wellhausen also remarks on the omission of the article in verse 28 which as here shown is an archaism (*cf.* vv. I 21, II 3). Other important words in these texts are אשר "which," מלך "king," ים "day," פחי "rulers," גלגל "eye," בארה "palace," את (accusative). There are some 200 different words in the two texts together.

tends to show that the peculiarities of language in Genesis mark an early rather than a late date of authorship, pointing to a time before the Syrian and Hebrew had separated from one another, as much as we now know, from the Samâla and Siloam texts, they had separated in Hezekiah's time.[1]

History.

The history of Samâla is not only interesting in connection with that of Assyria, but also serves to throw light on that of the Book of Kings. Before the time of Tiglath Pileser (745–727 B.C.) the Assyrians, though constantly at war with Syria, never succeeded in breaking down the resistance of the leagues over which the Syrian Kings of Damascus appear to have presided. The Syrians, Moabites, and Ammonites were subdued by David; but Hadadezer united the various Syrian kings under his rule, and Rezin wrested Damascus from Solomon. Ben Hadad I fought Israel at Aphek, on the east side of the Sea of Galilee, and killed Ahab at Ramoth Gilead near Gerasa. He was no doubt allied to the victorious Mesha of Moab, who defeated Israel. Hazael I and Ben Hadad II fought against Israel and Judah, but Jeroboam II took Damascus and Hamath. Rezin advanced against Ahaz, even to Elath on the Gulf of Akabah; and it was against him that Ahaz invoked the aid of Tiglath Pileser. The power of the Syrians of Damascus is thus very fully described in the Book of Kings.

The Assyrian monuments independently explain the history of the northern Syrians, in Samâla, Aleppo, Arpad, and Hamath. Thus in

[1] According to the modern critical school which follows Wellhausen, certain passages in Genesis, including the first chapter, are to be ascribed to an editor, who put together certain ancient documents which had already been combined in part by another editor. The later editor is supposed to have lived very late—about the time of the Captivity. The consideration of the language of these passages is therefore of special importance. It will be found that they are written in a vocabulary which only includes some 250 words, of which some of the most distinctive have been mentioned. The vocabulary does not show any traces of the later forms which belong to the Phœnician and to the Hebrew of late times. Almost every word is found in other parts of the Pentateuch, the antiquity of which is unquestioned; and so simple is this vocabulary that the words are, as a rule, common to every Semitic dialect, but more especially to those of the Western group. It is a remarkable circumstance that no less than 80, out of the 250, are now known to occur on the monuments here noticed, viz., the Moabite Stone, the Panammu text, the Bar Racab text, the Siloam inscription, and the Stone of Jehumelek of Gebal. Hence it is certain that in these cases (including many of the most important words) the vocabulary of the first chapter of Genesis, and of others said to be late, was a vocabulary in use west of the Euphrates between 900 and 600 B.C. There is indeed no distinction of vocabulary between different parts of Genesis, whatever may be said of style. But there is a very marked difference between its language and that of the books written after the Captivity.

859 B.C., Hani of Samâla joined the chiefs of the Patinai, who inhabited the mountains west of the Upper Euphrates; but Shalmaneser II defeated them, and in 854 he reached Aleppo, but was unable to advance further south, though he claims to have defeated a great league of Syrians under the King of Hamath, and Ben Hadad II of Damascus. In 847 he attacked the land of *Yatu*, but this has been thought to be an Arab locality, and not the *Yadi* of the present texts. In 842 B.C., however, Shalmaneser overran all Galilee, Phœnicia, and Bashan, and attacked Damascus. After this inroad the Syrians were left in peace for a quarter of a century on the north, but it was then that Jeroboam II conquered Damascus and Syria to Hamath, as well as Jerusalem on the south. In 806 and 797 B.C. there were incursions of Assyrians as far as Arpad, and in 773 B.C. Damascus was attacked, but after this the Assyrians were disturbed by revolts at home, and it was not till 754 B.C. that Assur Nirari II again attacked Arpad, between Aleppo and Samâla.

Tiglath Pileser III was far more successful than his predecessors. In 743 B.C. he was at Arpad, where he received tribute from Rezin of Damascus, and kings of Tyre, Gebal, Hamath, Carchemish, and Gurgum; and he mentions with these, Panammu of Samâla. In 742–1 B.C. he was still before this city, and took it by siege. In 738 B.C. he took Hamath, and carried the Hamathites captive to Assyria, replacing them by colonists from the Tigris. He again received tribute from Rezin and from Panammu. In 734 B.C. he attacked Rezin at Damascus, and carried away from Samâla 700 people with their sheep and oxen. He then conquered Ammon, Moab, and Philistia as far as Gaza, with Edom and the Nabathean Arabs.

The power of Assyria was now confirmed in Syria; and in 732 Damascus fell, and Ahaz of Judah, and Panammu of Samâla, gave tribute to the conqueror, with the chiefs of Ammon, Moab, Edom, Ascalon, and Gaza. Tiglath Pileser III died about 727 B.C.; but his successor Shalmaneser attacked Samaria, which Sargon took in 721 B.C. In 702 came Sennacherib's attack on Jerusalem, which failed. In Esarhaddon's reign there were three attacks on Memphis; and on his stela at Samâla, the third of these, in 670 B.C., appears to be recorded: "I besieged Memphis his royal city," says this text, "for half a day . . . . I took it, wasted, and burned it with fire. His queen, his princesses, his dear son Usanahuru, and his other sons, his daughter, his possessions and goods, his horses, his herds, his flocks, every one of them I carried off to Assyria. I tore the root of Cush from Egypt. I left none behind. I set rulers, residents, chiefs, and officers anew over all Egypt. I ordained the offerings of the temple for Ashur, and the great gods my masters. I laid on (the Egyptians) yearly gifts, and tribute to my Majesty."

In this long text from Samâla, translated by Dr. Schrader, there is no mention of the Kings of Samâla; but in 681 B.C. the place is noticed as having an Assyrian ruler. It would seem, therefore, that the native dynasty did not endure long after the reign of Bar Racab, and was

extinct half a century later. It is useful, perhaps, here to place side by side the various dynasties, from the middle of the ninth century B.C., down to the death of Tiglath Pileser, 120 years later :—

Judah.	Israel.	Damascus.	Samala.	Assyria.
Circa 850 B.C., Joash	Jehoram	Ben Hadad II	Hani	Shalmaneser
,, 820 B.C., ,,	Jehu	Hazael II	Bar Karal	Shamash Rimmon.
,, 800 B.C., Amaziah	Jeroboam II.	Ben Hadad III	Panammu I	Rimmon Nirari.
,, 780 B.C., Azariah	Shallum		Bar Tsur	Shalmaneser
,, 745 B.C., Jotham	Menahem	Rezin	Panammu II	Tiglath Pileser.
,, 730 B.C., Ahaz	Hoshea		Bar Racab	Tiglath Pileser.

We thus possess the dynasty of North Syria, from Hani down to Bar Racab, during a period of 120 years, when very important changes occurred in the history of Palestine. The account, given in the texts above translated, appears to fit into place with the rest of our information. Panammu I was an independent ruler, who expected that his descendants would sit on the throne after him, and would be successful in war. His country was prosperous, and he appears to have prevailed against enemies, who may have been the Hittites of Carchemish,[1] who were at times tributaries of such Kings as Shalmaneser II. This time coincides with the greatest period of Syrian power, when Ben Hadad II withstood Assyria, and defeated Israel—probably in the reign of Bar Karal, or of his father Hani ; but under Panammu I the troubles of the Northern Syrians again began. His great grandson records that destructions then occurred, representing the incursions of Rimmon Nirari to Arpad (806–797 B.C.), which followed the quarter century of peace, during which probably Bar Karal reigned.

Bar Tsur, son of Panammu I, was slain, and the land of Yadi was ruined, which may be placed about 773 B.C., when Assurdan attacked Damascus, or in 775 under Shalmaneser III. There were further troubles in the reign of Panammu II, which would represent the attack on Arpad by Assur Nirari in 754 B.C. It is not clear when he fled to Damascus, but would probably be either in 737, before which we know him to have been tributary, or in 734 when Damascus was attacked, and when Samâla was wasted. After the conquest of Damascus he was again tributary, having probably rebelled in the time between 738 and 734 B.C. In a yet unpublished text it appears that his son, Bar Racab, was also tributary to Tiglath Pileser, and must consequently have reigned before 727 B.C.

Putting these various indications together we obtain an outline of the history of Samâla as follows :—

(1) Before 859 B.C., Hani, a Syrian prince, perhaps connected with Ben Hadad II of Damascus, was established at the foot of the

[1] The Syrians and Hittites were enemies, as appears from the Biblical account (2 Kings vii, 6).

Taurus, north-west of Aleppo, and in that year was defeated by Shalmaneser II, and his land invaded by the Assyrians down to 839 or 835 B.C.

(2) His successor, Bar Karal, lived during the more peaceful time, 835–812 B.C., when Shamash Rimmon was fighting in Armenia, and on the Tigris, and in Babylonia. Bar Racab does not appear to allude to any troubles in this reign, and the conquests of Jeroboam II of Israel extended only to Hamath, south of the Samâla kingdom.

(3) Panammu I was also at first prosperous, but afterwards unfortunate. In 806 Rimmon Nirari reached Arpad. In 803 he reached the Mediterranean, probably passing through Samâla.

(4) Bar Tsur was murdered, and the land was wasted, either in 775 B.C. by Shalmaneser III, or in 773 by Assur Dan on his way to Damascus.

(5) Panammu II was also unfortunate at first. He was attacked by Assur Nirari in 754 B.C. He was tributary to Tiglath Pileser in 747 B.C. and 738 B.C., but very probably revolted with Rezin after that time, and fled to Damascus when Samâla was again attacked in 734 B.C. After the conquest of Damascus in 732 B.C., he threw in his lot with the Assyrians, and became a tributary, being re-established in Samâla by Tiglath Pileser, and the captives of Yadi restored.

(6) Bar Racab, acceding before 727 B.C., was also tributary to Tiglath Pileser, and in favour with that King. He built and adorned the palace of Samâla. Within half a century, however, the native dynasty was superseded by an Assyrian governor. Arameans from the Tigris had been introduced into Samâla 60 years before.

COMPARATIVE PLATE OF ALPHABETS.

Value.	Moabite, 890 B.C.	Samala, 800 B.C.	Baal Lebanon, 800 B.C.	Samala, 730 B.C.	Jerusalem, 700 B.C.	Gebal, 600 B.C.	Sidon, 300 B.C.
Aleph							
Beth							
Gimel							
Daleth							
Heh							
Vau							
Zain							
Kheth							
Teth							
Yod							
Caph							
Lamed							
Mim							
Nun							
Samech							
Ain							
Pe							
Tsade ...							
Koph							
Resh							
Shin							
Tau							

NOTES ON THE "QUARTERLY STATEMENT" FOR OCTOBER, 1895.

I.—By Professor Clermont-Ganneau.

P. 319. It is very desirable that the Latin *graffito* discovered by Professor Kennedy on the base of a pilaster near the gate in the neighbourhood of the Protestant cemetery should be published.

P. 329. It is to be regretted that they did not think of pouring liquid plaster into the cavities left in the bed of lime by the dead bodies anciently placed there. The countenance of the dead person could then have been restored by means of a true mould. It is desirable that in future, in case of similar discoveries, this simple operation may be carried out.

P. 332. The old opinion which places the Corea of Josephus at Kariût, and Archelaïs at Karâwâ, ought to be abandoned. Karâwâ, as Sir Charles Warren[1] recognised in 1876, and as Gildemeister has since abundantly demonstrated, is certainly Corea. To convince one's self of this it is enough to peruse attentively the description of the march of Vespasian: the Roman General *descends* (*καταβάς*) from Neapolis to Corea: but the altitude of Kariût is 170 m. above that of Nâblus. Moreover, the object of Vespasian was to effect a junction with the army corps which operated in Perea under the orders of Trajan, to march upon Jericho[2]; the junction in the plain of the Ghôr was quite indicated. Pompey also had before followed the valley of the Ghôr in passing by Pella, Scythopolis, and Corea.[3] I may add that Karâwâ represents the Neel Keraba of the life of St. Sabas, where one of the lauras of the region of the Jordan was established. It may be remarked, in passing, that the inscription discovered by the survey party near there is not, as supposed, in archaic Hebrew characters, but in Samaritan characters, as is also the inscription of Umm Zeinât on Carmel.

P. 334. *The Stoppage of the Jordan.*—I am happy to see that the summary of my ideas on this subject, so ably presented to the English public by my friend Colonel Watson, has already attracted the attention of the critic. I would call to mind, however, that it was only a summary, and that, after having succeeded in introducing this new datum into this important problem of exegesis, I studied it at full length and under all its aspects in 1892 and 1893 in a series of lectures at the Collège of France and in several communications to the Institute. I will explain it fully in Vol. II of my "Études d'Archéologie Orientale," now in course of publication. May I be allowed to say here, once for all, that of the number of exegetical and very complicated questions which my theory raises, I have treated in the greatest detail that of Adam, to which Canon Dalton

[1] "Underground Jerusalem," p. 253.
[2] Josephus "Wars," iv, 8, 1.
[3] *Ibid.* "Antiq.," xiv, 3, 4.

and Mr. Stevenson allude, particularly the literal comparison of the Hebrew text with the Greek version of Josh. iii, 16. It would take too long to develope my views on this point here. I will limit myself to saying that the question is still much more complicated than these attempts at exegesis, perhaps a little hasty and based on a mere cursory view of a system, which is not yet known in its entirety, would make us believe. It is thus, for instance, that I arrive at the conclusion that our town of Adam-Dâmieh is in reality mentioned again—and always with Zarethan—in a distorted passage where its existence has not been suspected, 1 Kings vii, 46 (and likewise in the parallel passage, still more distorted, of 2 Chron. iv, 17) :—

"And he cast them, במעבה (בעבי) האדמה, in the clay ground between Succoth and Zarethan." I propose the very paleographic correction : במעבר (ה)אדמה, "at the ford of Adamah." But I cannot engage in this discussion here. I beg only that before any definite judgment is passed on my ideas I may be permitted to explain them fully.

P. 338. Mr. Birch reproaches me with having doubted, after many others, the identity of Khureitûn and the Cave of Adullam. I refer him to Tobler. Without desiring to go to the bottom of the topographical question and to examine to what point Mr. Birch's onomastic comparison of Khureitûn and Etam can be received, I permit myself to remark that one at least of his objections against the etymology of Khureitûn = Χαρίτων has not the force which he attributes to it. He considers that if it referred to a holy personage the name ought to be Mar Khureitûn ; but *Mar* is not so necessary as he appears to believe in this kind of toponymes ; for instance, Deir Dosi (Theodosius), Kh. Biar Lûka (Luke), Deir Murkos (Mark), Deir Bulos (Paul), Deir Sem'ân (Simeon), Deir Futros (Peter), Deir Hanna (John), Deir Aiyub, &c.

Pages 349 and 353. The Nabatean inscriptions copied by Mr. Ewing, as also the preceding ones, pp. 57 and 157, are inedited. I have been able to decipher some words, but squeezes will be indispensable, the copies given being too imperfect.

P. 350, No. 174. Instead of Ζεὺς Ἀφαθηνε(ὺς) προκοπὴν Ἀρχελάῳ Ἰούλιος would it not be better to read : Ζεῦ Σαφαθηνέ ! προκοπὴν Ἀρχελάῳ Ἰουλίου. "Zeus Saphatenian (accord), benefit to Archelaus, son of Joulios." The vocative accounts for this elliptical form. The last ν of Ἰουλίου is supplied by the copy, very defective as to the rest, of Mr. Löytved, which I published in 1884. The topical surname of Zeus, *Saphathenos*, obtained by this reading has a true Semitic physiognomy. It is, perhaps, connected with some locality named *Sapha* or *Saphath*, or more probably with a region the name of which may be preserved in that of *Safa*, north-east of Bostra.

P. 353, No. 183. Already known by the much better copies of Wetzstein, Porter, and Waddington (No. 2286). The transcription proposed here requires to be modified and completed at several points.

P. 354, No. 186. Since about two years I have been in possession of a

good squeeze of the inscription of Seffûrieh, which admits of a more satisfactory decipherment. This difficult inscription is very interesting. I hope to publish it shortly. The personage is a *Scholasticus*, son of Aetios.

Below are a few brief remarks upon the other inscriptions collected by Mr. Ewing in the Hauran and published in previous numbers of the *Quarterly Statement* :—

Nos. 6 and 30. I have before shown ("Recueil d'Archéologie Orientale," I, p. 8, *et seq.*) that the era of Damascus is no other than that of the Seleucids, but with a different point of departure for the commencement of the year—the vernal equinox instead of the 1st of October. It is indeed a difference of the calendar rather than of the era.

No. 9. Published by me (*op cit.*, p. 5, No. 3).

No. 13. Ἀβδαλουαρου should perhaps read Ἀβδαδου(σ)αρου, Abdadusares, "servant of Dusares" (*cf.* עבדדושרא in the Nabatean inscriptions of Sinai).

No. 22. Perhaps Γαφαρα.

No. 35, l. 3. [Μ]άλχος?

No. 46. φιλω[ναίου]? as in Nos. 39 and 40.

No. 55. Γαυτου = son of Gautos, Nabatean proper name already known, in place of [ἑ]αυτοῦ ; appears in the inscriptions of Sinai and of Madaïn Sâleh under the form עוותו.

No. 61. θεῷ Μαλειχάθου is not a god called Maleichathou, but the god adored by the person called Maleichathos. Examples of this form are numerous in the Greek epigraphy of the Hauran, and it recurs in the Nabatean inscriptions.

Αὖσος is a Nabatean proper name widely spread (אושו Ausou, "a gift"), which has nothing to do with Ἰησοῦς.

No. 77. At the commencement of line 2 read : أشهد "I testify" or "testify" (imperative).

No. 78, l. 1. Perhaps the known formula ΧΜΓ ? Add the date : ἔτ ους) κζ', "the year 27," inscribed in the ear of the cartouche, and probably to be completed like No. 79, as [τ]κζ' = 327.

No. 79A. Read Βαγράθος instead of Βαγραθοος ; the last character, whatever it may be, should be put to the commencement of the patronymic which follows, which may perhaps be restored as Σελουανοῦ = Σιλουανοῦ, Silvanus.

No. 89. Already published by me (*op cit.*, p. 11, No. 8).

Nos. 102 and 103. The characters are certainly Arabic.

No. 153. A word is needed to designate the edifice ; perhaps ναοῦ at the end of line 2 (?)

No. 157. This is No. 2291 of Waddington. It should be read : . . . Jovis, G. Jul(ius) [Maxi]mus vet(e)ran(us), qui sub ambos militavit, fecit.

II.—By Lieut.-Colonel Conder, R.E., D.C.L.

P. 297 (October, 1895). The question as to the rock on the traditional Calvary is only one of a foot or two, as the cave beneath has a rock roof, but I examined the rock above in 1882, and it appeared to me to be live rock, and not a stone.

P. 316. There is no account of Herod's having built a wall on the south side of Jerusalem. Josephus speaks of the wall here as that of the earliest period.

P. 335. I do not remember the suggestion of Khŭrbet el Hamreh for Adam. In my published works I have adhered to the usual identification of Adam at *Ed Damieh*, the ferry near Kerâwa. This would agree with the proposed reading taken from the Septuagint. The site of the mediæval stoppage of the river was thus exactly the same as in the time of Joshua.

Tell es Sarn is a printer's error for *Tell Sarem*. I think the site of Zaretan is doubtful. It was apparently near Succoth.

P. 338. The proposed reading, *Khur Eitun*, "cave of Etam," is inadmissible, since خريتون is not comparable with חור עיטם. Mr. Birch also overlooks the fact that there is a ruined Monastery of St. Chariton not far from the cave in question. (*See* "Memoirs," vol. iii.)

Weymouth, *October* 13*th*, 1895.

"ADAM, THAT IS BESIDE KERIAT," Josh. iii, 16.

By W. E. Stevenson, Esq.

Too much caution in leaving the Hebrew for the Septuagint is a fault on the right side, so my suggestion, in *Quarterly Statement* for October, to strike out Zarethan in the above passage was made with considerable diffidence. But a point has since occurred to me which, taken together with the other evidence, places the matter beyond all reasonable doubt. We must certainly substitute קריית for צרתן, and identify the two places mentioned with the Damieh and Kerawa of Colonel Watson's quotation from Nowairi.

In considering the קריית (*καριατ*) of the Septuagint translator as a corruption, I had to fall back on the last refuge in a textual inquiry, a scribe's causeless and unexplained mistake. But—and this is what had escaped my notice—if קריית be taken as the original reading, explanation *is* possible of a corruption into צרתן. For the two last letters of the preceding מצד would suggest the change from קר to צר. The

influence of neighbouring words is an acknowledged source of clerical errors; there are two more instances of it in this same passage, the addition of יערים, *ιαρίμ*, and the change of מאדם to מאד, *σφοδρῶς*. When once צרית was settled in the text, the change of ית to תן was a mere matter of time. Zarith had no existence, and Zarethan had, the latter being referred to in 1 Kings iv, 12, and vii, 46.

There were, accordingly, two diverging lines of corruption from the original קריית. One, represented by our present Hebrew, changed the ק to צ, and either directly, or more probably after an intermediate stage, became fixed at צרתן. The other, represented by the LXX added Jearim, and such a well-known name as Kirjath Jearim was, of course, in no danger from the least intelligent scribe.

Whether, at the Exodus, the city's name was קריית or קרות must remain doubtful. If the latter, then, in accordance with the Hebrew preference for Yod, the Vav must have been altered. Also, if only to prevent confusion, the first vowel in pronunciation must have been different from that of the ordinary word for "city," whatever it was. As the Masoretes wrote Chireq, and the LXX evidently knew only of Pathach, we may choose Seghol for our city, and write Keriat.

The arguments for the proposed reading, each independent of the others, may be summed up as follows:—

(1) The internal evidence of the text.
(2) Kerawa and Damieh exactly suit the two Hebrew names.
(3) Nowairi puts them together in much the same way as the author of Joshua, viz., to give precision to a topographical statement. Clearly, then, one can be said to be "beside" the other.

It may be as well to give once more what the LXX translator had before him. His

σφοδρῶς ἕως μέρους Καριαθιαρίμ

represents, as near as we can judge—

5	4	3	2	1
יערים	קריה	(or צד) מצד	(or עד) ועד	מאד

The origin of 1, 2, and 5 out of our received text has been explained. Of course צד is translated by *μερους*. If he had the Vav and Mem of 2 and 3, the *καὶ* and *ἐκ* to represent them would drop out in course of time. He could not have had the אשר of our text. This would have dropped out after it was seen that the common phrase עד אשר required a verb, and was otherwise not suited here. With this disappearance, the stage of corruption was reached in which the translation of the LXX was made.

THE CORONATION STONE.

ENQUIRIES are every now and then made at the Office of the Fund with reference to the geological character of the famous stone in Westminster Abbey, upon which, since the time of Edward the First, the monarchs of England have been crowned, and the following information respecting it may therefore be acceptable to readers of the *Quarterly Statement*.

There are many traditions in connection with this stone, and it has been stated that it was the identical stone which Jacob used as a pillow, that it was brought many centuries ago to Ireland, and thence captured by one of the Kings of Scotland and taken to Scone, where it was used as the coronation stone for the Kings of that country. The question, therefore, as to the nature of the stone, and whether it corresponds to any rock formation in the southern parts of Palestine, is one of very considerable interest.

In the first edition of the late Dean Stanley's "Memorials of Westminster Abbey" (John Murray, 1868), p. 499, the Coronation Stone is described by Professor Ramsay as consisting "of a dull, reddish, or purplish sandstone, with a few small embedded pebbles, one of which is of quartz and two others of a dark material, which may be Lydian stone. The rock is calcareous, and of the kind that masons call 'free-stone.' Chisel marks are visible on one or more of its sides. A little mortar was in the sockets in which the iron rings lie, apparently not of very ancient date. To my eye, the stone appears as if it had originally been prepared for building purposes, but had never been used. . . . . That it belonged originally to the rocks round Bethel is equally unlikely, since, according to all credible reports, they are formed of strata of limestone."

The interesting little work of W. F. Skene "The Coronation Stone" (Edinburgh, Edmundston and Douglas, 1869), has, at p. 50, the following remarks by Mr. (now Sir Archibald) Geikie :—"As a geologist, I would say that the stone is almost certainly of Scottish origin, that it has been quarried out of one of the sandstone districts between the coast of Argyle and the mouths of the Tay and Forth, but that there is no clue in the stone itself to fix precisely its original source."

In the fifth edition of his above-mentioned work (1882), p. 52, Dean Stanley writes : "Wherever else it may have strayed there need be no question at least of the Scottish origin of the stone. Its geological formation is that of the sandstone of the western coasts of Scotland."

EBAL AND GERIZIM.

By Henry A. Harper, Esq.

In the "Bible and Modern Discoveries," I wrote of Joshua and his reading the law that "the hills form a great amphitheatre, space and verge enough for all, a natural sounding gallery for Joshua's voice."

I have received two most interesting letters from Mr. Thomas Williams, Lay Missionary to Seamen at Liverpool; he is so kind as to speak in very flattering terms of my book, but he suggests what to me is a new explanation :—

"May I venture to ask what you think of my explanation of Deut. xxvii, 12, 13, and Joshua viii, 33. In these verses (12, 13) it is said the people were to stand on Mounts Ebal and Gerizim. But in Joshua viii, 33, it says they stood *over against* the mountains, *not on them*. If the people stood over against the mountains, and not really on them, then it does not appear to me to have been at all difficult to make the voice travel from one side of the Vale of Shechem to the other. . . . I suppose the Vale is not much more than a quarter of a mile wide, consequently the people were not far apart; follow on with 33rd verse, and it will be seen Joshua caused the Ark of the Covenant to be placed in the middle of the Vale. He then places the priests who bore the Ark, half of them on one side of it and the other half on the other side – perhaps halfway between the Ark and the people. If this were so, then the space between the priests and the people would be very small indeed : Joshua now reads the cursings and the blessings. The priests on the one side hear the blessings, and call over to the people near them ; while the priests on the other side hear the cursings, and in like manner call over to the people on their side of the Ark."

I think the suggestion of this gentleman meets a difficulty, and one I have always felt myself. Quite true, I know the clearness of the air, and the distance the voice will carry in this Vale of Shechem ; but I prefer the explanation given by Mr. Williams, which I do not think has appeared in print before.

[Dr. Chaplin sends the following remarks on this subject :—"I have little doubt that Mr. Williams is right. But his suggestion is by no means new. Josephus distinctly states that the altar which Moses commanded the Israelites to erect, was to be 'between the two mountains, that of Gerizim, situate on the right hand, and that called Ebal, on the left, and that the army should be so divided, that six tribes should stand upon (ἐπὶ) each of the two mountains, and with them the Levites and the priests' ('Ant.,' IV, viii, 44). As long ago as the year

1862, the Rev. Joseph Barclay, afterwards Anglican Bishop in Jerusalem, and myself, when studying the question on the spot, were led to the same conclusion, and I am under the impression that this opinion is held by most persons familiar with the locality. It is strange if it has not found its way into our modern books, and readers of the *Quarterly Statement* will be indebted to Mr. Harper for calling attention to it. The notion that the people stood on the summits, or near the summits, of the mountains, arises from want of attention to the terms employed. If the *top* had been intended, the word רוֹשׁ, *rosh*, would (probably) have been used, as in Exodus xxxiv, 2, and many other passages. עַל-הַר and בְּהַר (Deut. xxvii, 12, 13), mean *on*, but not necessarily *on the top*. The expression in Joshua viii, 33, אֶל מוּל, *over against*, is, as Mr. Williams points out, certainly *not on the top*. The Septuagint has here πλησίον, and in the Deuteronomy passage ἐν. As the assembly was very large, including 'all the congregation of Israel, with the women and the little ones, and the strangers that were conversant among them,' it doubtless extended across the entire valley, and up the sides of the 'great amphitheatre' on the north and on the south."]

BIBLIOTHECA CURIOSA.

By Henry A. Harper, Esq.

In a rare reprint of an interesting book entitled "Edward Webbe, Chief Master Gunner. His Trauailes. (A.D. 1590)," I met with the following (he had explained how it was that he saw so much of the East) :—

"When I was at Ierusalem, I saw the Sepulchre wherein (it is said) Christ was buried : it is as it were in a Vault, and hath vij Dores, and vij Roes of marble steppes or stayres to go downe into the same, and then at the bottom of ye stayres, there is a faire Chapel, with an Altar and a Lamp burning continually day and night before it, and the Graue is full of white Earth, as white as Chalke, and a Toombe of ye same Earth made and laide vppon Stone wheron were sundry Letters written, but I could not read them.

"The Great Turk hath some profit comming by ye keeping thereof, and hath therefore builded at his owne charges an Hospital within Ierusalem which his Genezeries doe keepe : and this Hospitall is to receive all Pilgrims and trauellers to lodge in whensoeuer they come. And all that come to see the sepulchre doe pay ten Crowns a-peece, whereof the Turke hath but one, and the rest goes to the Church, and so they may stay there as long as they list to Lodge in that new Hospitall, and have lodging, bread, victuals and water so long as they will remaine there, but no wine : such as come hither for Pilgrims haue no beds at all, but lie vpon the ground on Turkey Carpets."

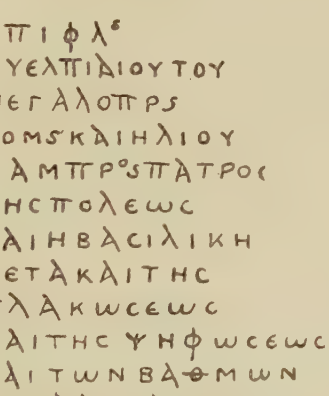
Further on the old writer says :—

"The old Cittie of Ierusalem is a very delicat place, and nothing there to be scene but a little of the old Walles which is yet Remayning : and all the rest is Grasse, Mosse and Weedes much like to a peece of Rank or moist grounde. They haue no Tillage at all in that partes."

"The Citty of Ierusalem where the Temple now standeth is almost a mile from the olde walles of Ierusalem : it is a maruellous olde building, and there standeth the old Relicks preserued and kept as monuments of great treasure."

INSCRIPTION FOUND AT CÆSAREA.

Copied by Frank T. Ellis, Esq., September 10th, 1895, with Notes by Dr. A. S. Murray.



Ἐπὶ Φλ. Εὐελπιδίου τοῦ μεγαλοπρ(επεστάτου) κόμ(ητος) καὶ Ἡλίου λαμπρο(τάτου) πατρὸς, τῆς πόλεως καὶ ἡ βασιλικὴ μετὰ καὶ τῆς πλακώσεως καὶ τῆς ψηφώσεως καὶ τῶν βαθμῶν τοῦ Ἀδριανείου γέγονεν ἔτ(ους) ἰνδ(ικτιῶνος) ᾱ εὐτυχῶς.

"Under the magnificent Count Flavius Eulpidius and the illustrious Father Elius, the basilica of the city, together with the inlaying of marble, the tessellated work, and the steps of the Temple of Hadrian were successfully completed in the year ᾱ of the Indiction."

This inscription has a close family likeness to one given in the C. I. Gr. 8,662, where the same titles of *μεγαλοπρεπέστατος κόμης* and *λαμπρότατος πατήρ* are cited, and where the word *πλάκωσις* (= inlayed marble) is applied to a gate (*πύλη*). I have translated *ψήφωσις* as "tessellated" work, but it may more exactly have meant a pavement of pebbles (*ψῆφοι*) such as was very common in late classical buildings. For the use of the letter *s* as a sign of abbreviation in lines 1, 3, 4, 5, compare the inscription from Cæsarea in Waddington, 2,124.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT JERUSALEM IN THE YEAR 1890.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest, as usual, are in the winter, and the lowest in the summer months; the maximum for the year was 27·613 inches, in January, and the next in order was 27·598 inches, in October. The highest reading in the preceding 29 years, 1861 to 1889 inclusive, was 27·816 inches, in December, 1879.

In column 2 the lowest reading in each month is shown; the minimum for the year was 27·085 inches, in April, the next in order was 27·116 inches, in February. The lowest reading in the preceding 29 years was 26·972 inches, in April, 1863, and in February, 1865.

The range of readings in the year was 0·528 inch. The largest range in the preceding 29 years was 0·742 inch, in 1876; and the smallest was 0·491 inch, in 1883.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest, 0·165 inch, was in July, and the next in order, 0·169 inch, in August; the largest was 0·480 inch in January, and the next in order, 0·430 inch, in February. The mean monthly range for the year was 0·292 inch. The mean for the preceding 29 years was 0·310 inch.

The numbers in the 4th column show the mean monthly pressure of the atmosphere; the highest was 27·465 inches, in October; and the next in order, 27·439 inches, in November; the lowest was 27·217 inches, in July; and the next in order, 27·262 inches, in August. The mean yearly pressure was 27·359 inches. The highest mean yearly pressure in the preceding 29 years was 27·443 inches, in 1861, and the lowest 27·367 inches, in 1864. The mean for 29 years was 27·394 inches.

The temperature of the air reached 90° on June 2nd. In the preceding 8 years, the earliest day in the year the temperature was 90° was March 25th, in the year 1888; there were three other days in June when the temperature was or exceeded 90°; in July 8 days; in August 20 days; in September 4 days; and in October 1 day, the 2nd. In the

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he level of the Mediterranean Sea, open on all sides.

Weight of a cubic foot of air.	Wind. Relative proportions of.								Mean amount of cloud.	Rain.	
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		Number of days on which it fell.	Amount collected.
grs.											in.
505	0	6	1	3	1	8	3	9	6·0	15	11·59
498	0	4	1	3	0	8	3	9	5·8	15	4·18
488	1	9	0	5	0	2	6	8	5·5	9	1·87
485	2	4	2	3	0	9	1	9	6·1	8	4·41
474	1	6	2	2	0	1	5	14	2·3	0	0·00
469	2	5	0	1	0	2	4	16	0·6	0	0·00
465	0	0	0	0	0	10	6	15	0·1	0	0·00
463	1	2	0	0	1	1	6	20	1·0	1	0·08
473	5	0	0	1	0	0	0	24	0·3	0	0·00
476	4	5	0	2	0	0	3	17	2·6	1	0·07
486	2	8	2	3	0	5	3	7	4·2	7	3·48
498	1	6	5	1	0	12	3	3	7·9	17	9·83
482	sum. 19	sum. 55	sum. 13	sum. 24	sum. 2	sum. 58	sum. 43	sum. 151	3·6	sum. 73	sum. 35·51
19	20	21	22	23	24	25	26	27	28	29	30

preceding 8 years the latest day in the year this temperature reached 90° was October 23rd in the year 1887. The temperature reached or exceeded 90° on 37 days during the year. In the year 1882 the number of days of this high temperature was 28, and in 1887 was 73; the average of the 8 years was 45. The highest temperature in the year was 97° on September 10th. The highest in the preceding 8 years, 1882–1889, was 106°, in July, 1888.

The temperature of the air was as low as 26°·5 on January 3rd, and on 15 nights was at or below 32°, and on every night in this month it was below 40°; in February it was as low or below 40° on 25 nights; in March on 5 nights; and in December on 3 nights. Thus the temperature was as low or lower than 40° on 64 nights during the year. In the year 1885 the number of nights of this low temperature was 23, and in 1886 was 97; the average for the 8 years was 51. The lowest temperature in the preceding 8 years was 27°, in January, 1887.

The highest temperature of the air in each month is shown in column 5. In January it was 54°·5, being the lowest of any high day temperature in the preceding 8 years, and was 6°·7 below the mean of the 8 high day temperatures in January. With the exception of September and November, the high day temperature was below its average in every month. The mean for the year was 82°·0, being 2°·4 below the average of 8 years. The highest for the year was 97°, in September.

The lowest temperature of the air in each month is shown in column 6. In January it was 26°·5, being 6° below the average of the preceding 8 years; in February it was 31°·0, being 3°·8 below the average; and in March it was 32°, being 2° below; in the remaining months it was generally above. The mean for the year was 45°·9, being 1°·7 above the average of 8 years.

The range of temperature in each month is shown in column 7; the numbers vary from 25°·8 in December, to 45° in March. In the months of April, May, and August the ranges were small, owing to the low high day, and high night temperatures, being 10°·8, 10°·3, and 10°·9 respectively less than their averages. The mean range for the year is 36°·1, being 4°·0 less than the average of 8 years.

The range of temperature in the year was 70°·5. The largest in the preceding 8 years was 76°·5, in each of the years 1884, 1886, and 1888, and the smallest was 63°·5, in year 1885.

The mean of all the high day temperatures in each month is shown in column 8. The lowest was 47°·3 in January, being 3°·6 below the average, and was the lowest mean high day temperature in any month in the preceding 8 years, the nearest approach was 49° in February, 1882. The highest was 93°·8, in August, the next in order was 91°·3, in July. The mean for the year was 72°·6, exceeding the average of 8 years by 0°·3.

The mean of all the low night temperatures in each month is shown in column 9. The lowest was 32°·3, in January, being 6°·4 below the average, and lower than in any month in the preceding 8 years; the nearest approach was 34°·5, in January, 1887. The highest was 68°·7, in

both July and August. The mean for the year was 53°·8, being 1°·6 above the average of 8 years.

In column 10, the mean daily range of temperature in each month is shown; the smallest was 9°·7, in December; and the next in order 14°·1, in November; the greatest was 25°·1, in August, and the next in order 23°·0, in May. The mean for the year was 18°·8, being 1°·3 less than the average. The smallest ranges in the preceding 8 years were 9°·3, in January, 1883, and 10°·5, in January, 1885 and 1889; the greatest were 33°·8, in August, 1886, and 30°·1, in the same month of 1887. The smallest mean for the year was 17°·8 in 1883, and the greatest, 24°·3, in 1886.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 11; the lowest was 39°·8, in January; and the next in order 45°·5, in February; the highest was 81°·2, in August, and the next in order 80°·0, in July. The mean for the year was 63°·2, exceeding the average of 8 years by 0°·9. The lowest mean temperature in the preceding 8 years were 42°·0, in December, 1886, and 42°·5 in both February, 1882, and January, 1887; the highest were 81°·1, in July, 1888, and 79°·3, in October, 1885. The highest mean for the year was 63°·7, in 1885, and the lowest, 60°·1, in 1886.

January was the coldest month during the 8 years of observation; by reference to columns 5 and 6 it will be seen that it was below the average both by day and night. The nights of February were cold, but from March to the end of the year they were above their average, particularly so in the months of July, August, and November.

The numbers in the 12th column are the mean readings of a dry bulb thermometer. If those in column 12 be compared with those in column 11, it will be seen that those in column 12 are a little higher in every month, the difference of the means for the year being 3°·0. The mean difference between the mean temperature of the air and that at 9 a.m. for the 8 years is 3°·2.

For a few days in the winter months the dry and wet-bulb thermometers read alike, or nearly so, but in the months from May to November the difference between the readings often exceeded 20°, and was as large as 29° on June 7th at 9 a.m. In column 13 the mean monthly readings of the wet bulb thermometer are shown; the smallest differences between these and those of the dry bulb were 3°·2, in January, and 3°·3, in December; the largest were 15°·5, in July, and 14°·5, in May. The mean for the year was 57°·1; that of the dry was 66°·2; the mean difference was 9°·1.

In column 14, the temperature of the dew-point, or that temperature at which the air would be saturated by the quantity of vapour mixed with it, is shown; the smallest differences between these numbers and those in column 12 were 6°·8, in December, and 6°·9 in January; and the largest, 26°·0, in July, and 24°·9 in May. The mean temperature of the dew-point for the year was 50°·3; the mean for 8 years was 50°·2.

The numbers in column 15 show the elastic force of vapour, or the

length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·222 inch, in January, and the largest, 0·548 inch, in August. The mean for the year was 0·375 inch; the average of 8 years was 0·378 inch.

In column 16 the weight in grains of the water in a cubic foot of air is shown; it was a little more than 2½ grains in January, and more than 5½ grains in August. The mean for the year was 4·1 grains; the average of 8 years was 4·2 grains.

In column 17 the additional quantity of water required to saturate a cubic foot of air is shown; it was less than one grain in the months of January and December, and more than 6 grains in both July and August. The mean for the year was 3·5 grains; the average of 8 years was 3·3 grains.

The numbers in column 18 show the degree of humidity of the air, saturation being represented by 100; the largest numbers appear from December to February, and the smallest from March to November; the smallest of all was 40 in July. The mean for the year was 59; that of 8 years was 60.

The numbers in column 19 show the weight in grains of a cubit foot of air under its mean atmospheric pressure, temperature, and humidity; the largest number was in January, decreasing to the smallest in August, and then increasing to December. The mean for the year was 482 grains; that of the 8 years was 483 grains.

The most prevalent winds in January were N.W. and S.W., and the least prevalent wind was N. In February the most prevalent were N.W. and S.W., and the least were N. and S. In March the most prevalent were N.E. and N.W., and the least were E. and S. In April the most prevalent were S.W. and N.W., and the least was S. In May the most prevalent was N.W., and the least was S. In June the most prevalent was N.W., and the least were E. and S. In July the most prevalent were N.W. and S.W., and the least were N., N.E., E., S.E., and S. In August the most prevalent was N.W., and the least were E. and S.E. In September the most prevalent was N.W., and the least were N.E., E., S., and S.E. In October the most prevalent was N.W., and the least were E., S., and S.W. In November the most prevalent winds were N.E. and N.W., and the least was S. And in December the most prevalent wind was S.W., and the least prevalent was S. The most prevalent wind for the year was N.W., which occurred on 151 times, of which 24 were in September, 20 in August, and 17 in October; and the least prevalent wind was S., which occurred only twice during the year.

The total number of times of each wind are shown in the last line of columns 20 to 27; those winds less in number than the average of the preceding 8 years were—

N.	by	14
E.	„	23
S.E.	„	6
S.	„	11
W.	„	26

and those winds greater in number than the average of the 8 years were—

N.E.	by	21
S.W.	,,	9
N.W.	,,	51

The numbers in column 28 show the mean amount of cloud in each month; the month with the smallest amount is July, and the largest December. Of the cumulus or fine weather cloud there were 3 instances; of the nimbus or rain cloud there were 26 instances, of which 9 were in January, and 7 in February, and only one instance from April to October; of the cirrus there were 4 instances; of the stratus 3 instances; of the cirro cumulus there were 90 instances, of which 13 were in October, and 10 in each of the months of April, November, and December; of the cumulus stratus there were 54 instances; of the cirro stratus 18 instances, and 171 instances of cloudless skies, of which 30 were in July, 25 in August, and 23 in June, and only 2 in December.

The largest fall of rain for the month in the year was in January, 11·59 inches, of which 2·45 inches fell on the 18th and 1·90 inch on the 27th. The next largest fall for the month was 9·83 inches in December, of which 2·40 inches fell on the 17th, and 1·83 inch on the 9th. No rain fell from April 25th till August 29th, making a period of 125 consecutive days without rain. The total fall of rain for the year was 35·51 inches, being 10·28 inches above the average for 32 years, viz., 1861 to 1892. The number of days on which rain fell was 73, being 18 more than the average.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT TIBERIAS UNDER THE DIRECTION OF DR. TORRANCE IN THE YEAR 1890.

By James Glaisher, F.R.S.

The observatory at Tiberias is situated in 35° 34′ east longitude and 32° 48′ north latitude, at about 652 feet below the level of the Mediterranean, and 30 feet above the level of the Sea of Galilee, from which it is distant about 150 feet, and is pretty open on all sides.

The barometer was made by Negretti and Zambra. The dry and wet-bulb thermometers and rain-gauge were made by Casella. The diameter of the receiving surface of the rain-gauge is 5 inches. The observations have been taken by Mr. Najub Nassar, Dr. Torrance's dispenser, and who has been instructed and directed by him.

The observations were began on February 1st, 1890; their reductions have been deferred till we had those of the years 1891, 1892, and 1893, at both Tiberias and Jerusalem, in the hopes by comparing their January

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MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Tiberias, by NAJUB NASSAR, at about 652 feet below the Mediterranean, and 30 feet above the level of the Sea of Galilee, open on all sides.
Latitude, 32° 48′ N.; Longitude, 35° 34′ E.

Months.	Pressure of atmosphere in month—corrected to 32° Fahrenheit.							Temperature of the air in month.							8 a.m.								4 p.m.								Rain.	
															Mean reading.			Vapour.					Mean reading.			Vapour.						
	Highest.	Lowest.	Range.	Mean at 8 a.m.	Mean at 4 p.m.	Lower reading at 4 p.m. than at 8 a.m.	Mean at 8 a.m. and 4 p.m.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Number of days on which rain fell.	Amount collected.
1890.	in.	in.	in.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	in.	grs.	grs.	°	grs.	°	°	°		grs.	grs.		grs.		in.
January	31·129*	30·461*	0·668*	30·836*	30·775*	0·061*	30·806*	66·0*	34·3*	31·7*	62·1*	40·3*	21·8*	51·2*	52·1*	48·6*	45·0*	·300*	3·4*	0·9*	77*	557*	...	...	...	...	...	...	...	...	...	...
February	30·953	30·438	0·515	30·777	30·721	0·056	30·749	76·0	45·0	31·0	67·8	49·2	18·6	58·5	59·3	55·6	52·3	·393	4·4	1·2	78	548	...	...	...	...	...	...	...	...	18	3·34
March	30·831	30·455	0·376	30·667	30·598	0·069	30·632	95·0	43·0	52·0	78·2	55·6	22·6	66·9	67·6	62·2	57·9	·481	5·2	2·2	71	537	...	...	...	...	...	...	...	...	12	1·25
April	30·786	30·402	0·384	30·625	30·534	0·091	30·579	89·0	52·0	37·0	81·7	59·7	22·0	70·7	70·9	67·1	64·3	·602	6·6	1·7	79	532	78·8	71·3	66·1	·642	6·9	3·7	66	523	8	2·83
May	30·823	30·374	0·449	30·652	30·544	0·108	30·598	104·0	60·0	44·0	93·6	65·3	28·3	79·5	78·1	69·2	63·0	·577	6·2	4·1	59	526	89·4	71·3	59·9	·516	5·4	9·0	37	513	0	0·00
June	30·713	30·329	0·384	30·584	30·488	0·096	30·536	105·0	65·0	40·0	98·4	70·7	27·7	84·6	83·1	72·9	66·1	·641	6·8	5·2	56	526	94·3	73·6	61·1	·534	5·5	11·3	34	508	0	0·00
July	30·534	30·219	0·315	30·440	30·348	0·092	30·394	107·0	70·0	37·0	101·1	74·9	26·2	88·0	86·3	76·0	69·3	·717	7·5	5·8	57	513	96·1	75·4	63·3	·579	6·0	11·9	34	503	0	0·00
August	30·554	30·282	0·272	30·461	30·389	0·072	30·425	107·0	73·0	34·0	102·9	77·8	25·1	90·4	87·6	77·4	71·0	·757	7·9	5·9	57	512	97·3	76·1	63·7	·590	6·1	12·1	33	503	0	0·00
September	30·828	30·463	0·365	30·668	30·573	0·095	30·620	111·0	68·0	43·0	97·0	73·6	23·4	85·3	84·0	73·1	65·9	·637	6·7	5·7	54	520	93·5	73·6	61·5	·547	5·6	10·8	34	510	0	0·00
October	30·901	30·509	0·392	30·762	30·658	0·104	30·710	102·0	65·0	37·0	92·5	69·3	23·2	80·9	78·6	68·8	62·0	·558	6·0	4·5	57	527	87·6	71·0	60·2	·524	5·5	8·4	43	517	0	0·00
November	31·064	30·541	0·523	30·785	30·711	0·074	30·748	100·0	54·0	46·0	80·2	62·3	17·9	71·3	68·2	61·7	56·6	·459	5·1	2·5	66	539	75·8	65·5	58·2	·486	5·3	4·4	54	530	11	6·21
December	30·970	30·471	0·499	30·773	30·723	0·050	30·748	81·0	49·0	32·0	67·2	53·7	13·5	60·5	59·0	54·6	50·6	·370	4·2	1·4	74	549	64·2	58·3	53·4	·409	4·5	2·1	68	542	21	8·75
Means	30·841	30·412	0·429	30·669	30·588	0·081	30·628	95·2	56·5	38·7	85·2	62·7	22·5	74·0	72·9	65·6	60·3	·541	5·8	3·4	65	532	...	...	...	...	...	...	...	...	sum. 70	sum. 22·38
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

means a sufficiently close agreement might be found year by year to authorise deducing approximately from the Jerusalem observations, January, 1890, those for Tiberias for January, 1890, and thus complete the year.

The table on p. 98 shows the process adopted in detail in deducing the inferred values for January, 1890.

The numbers in column 1 of the general table show the highest reading of the barometer in each month; the highest appear in the winter, and the lowest in the summer months, as at Jerusalem; the maximum for the year observed was 31·064 inches in November, and the next in order 30·970 inches in December.

In column 2 the lowest reading in each month is shown; the minimum for the year was 30·219 inches in July; and the next in order 30·282 inches in August.

The range of readings in the year observed was 0·845 inch. The range in the morning observations was 0·757 inch, being 0·229 inch greater than the range at Jerusalem.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest was 0·272 inch in August, and the next in order 0·315 inch in July. The largest observed was 0·523 inch in November, and the next in order 0·515 inch in February.

The numbers in columns 4 and 5 show the mean monthly reading of the barometer at 8 a.m. and at 4 p.m.; and those in column 6 the lower reading at 4 p.m. than at 8 a.m.: the smallest difference between these two readings was 0·050 inch in December, and the next in order 0·056 inch in February; the largest was 0·108 inch in May, and the next in order 0·104 inch in October. In England in January the readings at 8 a.m. and 4 p.m. are practically the same; in all other months the reading at 4 p.m. is lower than at 8 a.m.; the greatest difference is in June, 0·025 inch. The mean for the year at Tiberias was 0·081 inch, being four times greater than in England.

The numbers in column 7 show the mean monthly pressure of the atmosphere; the highest observed was 30·749 inches in February, and the next in order 30·748 inches in both November and December; the lowest was 30·394 inches in July, and the next in order 30·425 inches in August. The mean for the year was 30·628 inches.

The highest temperature of the air in each month is shown in column 8. The first day in the year the temperature reached 90° was March 2nd; and there were 3 other days in this month when the temperature reached or exceeded 90°; in May 26 days; in June, July, August, and September it reached or exceeded 90° on every day; in October on 24 days; and in November on 4 days; thus the temperature reached or exceeded 90° on 180 days during the year. At Jerusalem the temperature did not reach 90° till June 2nd, and there were only 37 days in the year on which the temperature was so high as 90°. At Tiberias the temperature was 104° on May 4th, and reached or exceeded 100° on 4 other days in May; on 14 days in June; on 22 days in July; on every day

in August; on 10 days in September; on 4 days in October; and once in November, on the 1st; thus on 87 days in the year the temperature reached or exceeded 100°. The highest temperature in the year at Tiberias was 111° on September 10th; at Jerusalem the highest in the year was 97° on the same day, viz., September 10th.

The lowest temperature of the air in each month is shown in column 9. The lowest in the year was 34°·3 in January, as inferred from the lowest at Jerusalem, 26°·5, by the application of 7°·8, being the mean difference in the years 1891, 1892, and 1893. The next lowest was 43° in March, on the 10th; from March 11th to the end of the year there was no temperature as low as 43°, the nearest approach being 47° on March 11th. At Jerusalem the lowest in the year was 26°·5 on January 3rd; and there were 64 nights in the year when the temperature was as low or lower than 40°.

The yearly range of temperature was 76°·7; at Jerusalem it was 70°·5.

The range of temperature in each month is shown in column 10; and these numbers vary from 31° in February to 52° in March. At Jerusalem the range varied from 25°·8 in December to 45° in March.

In column 11 the mean of all the high day temperatures in each month is shown. The lowest was 62°·1 in January (being 14°·8 higher than at Jerusalem); the next in order were 67°·2 in December, and 67°·8 in February; the highest was 102°·9 in August, and the next in order were 101°·1 in July, and 98°·4 in June. At Jerusalem the lowest were 47°·3 in January, 54°·1 in December, and 54°·2 in February; the highest were 93°·8 in August, 91°·3 in July, and 84°·9 in June. The mean for the year at Tiberias was 85°·2; at Jerusalem it was 72°·6.

In column 12 the mean of all the low night temperatures in each month is shown; the lowest was 40°·3 in January, as inferred from the lowest at Jerusalem, 32°·3, by the application of 8°, being the mean difference in the years 1891, 1892, and 1893; the next in order were 49°·2 in February, and 53°·7 in December; the highest was 77°·8 in August; the next in order were 74°·9 in July, and 73°·6 in September. At Jerusalem the lowest were 32°·3 in January, 36°·9 in February, and 44°·4 in December; the highest were 68°·7 in both July and August, and 63°·5 in June. At Tiberias the yearly value was 62°·7; at Jerusalem it was 53°·8.

In column 13 the mean daily range of temperature is shown in each month; the smallest was 13°·5 in December, and the next in order were 17°·9 in November, and 18°·6 in February; the greatest was 28°·3 in May; the next in order were 27°·7 in June, and 26°·2 in July. At Jerusalem the smallest were 9°·7 in December, 14°·1 in November, and 15° in January; the greatest were 25°·1 in August, 23° in May, and 22°·6 in July. At Tiberias the mean daily range for the year was 22°·5; at Jerusalem it was 18°·8.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 14. The

lowest was 51°·2 in January; the next in order were 58°·5 in February, and 60°·5 in December; the highest was 90°·4 in August; the next in order were 88° in July and 85°·3 in September. At Jerusalem the lowest temperatures were 39°·8 in January, 45°·5 in February, and 49°·3 in December; and the highest were 81°·2 in August, 80° in July, and 74°·2 in June. At both Tiberias and Jerusalem the mean temperature increased month by month from the minimum in January to the maximum in August, then decreased month by month to the end of the year. At Tiberias the yearly value was 74°; at Jerusalem it was 63°·2.

The numbers in the 15th and 16th columns are the mean readings of a dry and wet-bulb thermometer, taken daily at 8 a.m. If those in column 15 be compared with those in column 14, it will be seen that those in column 15 were a little higher till April, and a little lower from May, the mean for the year being 72°·9, differing by 1°·1 from the mean of the year as determined by the use of the maximum and minimum thermometers; should this be the case in future years, the mean temperature may be approximately determined, by a single reading of the thermometers taken daily at 8 a.m. For a few days in February, at 8 a.m. the dry and wet-bulb thermometers read alike, showing that the air at these times was saturated with moisture.

The numbers in column 17 are the temperature of the dew point, or that temperature at which the air would be saturated by the quantity of vapour mixed with it; the smallest difference between these numbers and those in column 15 was 6°·6 in April; from May to October the smallest difference was 15°·1 in May, and the largest 18°·1 in September.

The numbers in column 18 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·300 inch in January, and the largest 0·757 inch in August.

In column 19 the weight in grains of the water in a cubic foot of air is shown; it was less than 4½ grains in both February and December, and more than 7 grains in July and August.

In column 20 the additional quantity of water required to saturate a cubic foot of air is shown; it was less than 2 grains in the months of January, February, April, and December, and more than 5 grains in the months of June, July, and August.

The numbers in column 21 show the degree of humidity of the air, saturation being represented by 100; the largest numbers appear from December to April, and the smallest from May to November, the smallest of all was 54 in September.

The numbers in column 22 show the weight in grains of a cubic foot of air, under the mean atmospheric pressure, temperature, and humidity of the air; the largest number was in January, decreasing to the smallest in August, and then increasing to December.

In columns 23 and 24 are the mean readings of a dry and wet-bulb thermometer taken daily at 4 p.m. By comparing the numbers in column 15 with those in column 23, the increase of temperature from 8 a.m. to

4 p.m. is shown; in May and June the increase was 11°·3 and 11°·2 respectively, and from July to October was 9° or more than 9°.

In column 25 the temperature of the dew point at 4 p.m. is shown. By comparing these numbers with those in column 17, it will be seen that the temperature of the dew point in May was lower than at 8 a.m. by 3°·1, increasing to 7°·3 in August, then decreasing to 1°·8 in October. The numbers in this column are smaller than those in column 23 by 12°·7 in April, 29°·5 in May, increasing to 33°·6 in August, then decreasing to 10°·8 in December; these differences between the temperature of the air and that of the dew point are very much larger than those at 8 a.m., in August it was more than twice as large.

Frequently in the months from May to October at 4 p.m. the reading of the dry-bulb thermometer exceeds that of the wet by 25° or more, and the temperature of the dew point was from 40° to nearly 49° lower than the temperature of the air, as shown by the following table:—

Month and Day.	Reading of		Temperature of the Dew Point.	Temperature of Dew Point below Dry.
	Dry.	Wet.		
	°	°	°	°
May 4	102·0	74·0	58·3	43·7
5	101·0	72·0	55·5	45·5
15	100·0	72·0	56·0	44·0
25	98·0	70·0	53·8	44·2
31	100·0	73·0	57·6	42·4
June 1	102·0	75·0	59·9	42·1
6	100·0	75·0	60·7	39·3
8	103·0	75·0	59·3	43·7
14	101·0	72·0	55·5	45·5
15	99·0	74·0	59·5	39·5
29	101·0	75·0	60·2	40·8
July 6	101·0	76·0	61·7	39·3
7	99·0	74·0	59·5	39·5
9	100·0	75·0	60·7	39·3
19	99·0	74·0	59·5	39·5
23	101·0	74·0	58·6	42·4
24	103·0	74·0	58·8	44·2
Aug. 9	100·0	75·0	60·7	39·3
17	103·0	72·0	54·6	48·4
18	100·0	71·0	54·5	45·5
19	100·0	71·0	54·5	45·5
20	97·0	71·0	55·7	41·3
29	105·0	80·0	66·5	38·5
Sep. 9	107·0	79·0	64·2	42·8
10	107·0	76·0	59·6	47·4
22	88·0	61·0	43·7	44·3
Oct. 24	95·0	69·0	53·4	41·6
26	93·0	68·0	52·7	40·3

In column 26 the elastic force of vapour is shown, and by comparing the values with those in the same month at 8 a.m., we find that in May it was 0·061 inch less, increasing to 0·167 inch less in August, and then decreasing to 0·034 inch less in October.

In column 27 the amount of water in a cubic foot of air is shown, and the amount was less in every month from May to October than that at 8 a.m.

In column 28 the amount of water required to saturate a cubic foot of air, was as large as 11·3 grains in June, 11·9 in July, and 12·1 grains in August.

In column 29 the degree of humidity is shown; the driest months were June, July, August, and September, the value for these months being either 33 or 34.

In column 30 the weight of a cubic foot of air is shown; the smallest was 503 grains in both July and August.

In column 31 are given the number of days of rain in each month, of the 11 months; the greatest was 21 in December; the total number in the 11 months was 70. At Jerusalem the total number in the same 11 months was 58.

In column 32 the fall of rain monthly from February to December is given. The heaviest fall of rain on one day in the months of February, March, and April was 1·18 inch on April 2nd; and the next in order 0·93 inch on April 1st. No rain fell from April 28th to November 17th, excepting a slight fall of 0·01 inch on November 6th; neglecting this, no rain fell for 203 days; the fall on November 17th was 0·10 inch; on November 18th was 0·88 inch; on November 19th was 0·85 inch; on November 20th was 0·78 inch; on November 21st was 1·02 inch; on November 22nd was 1·15 inch; and on November 23rd was 1·01 inch, or 5·79 inches out of the 6·21 inches, the total fall for the month. In December the fall was 8·75 inches—the heaviest monthly fall in the 11 months; on December 9th the fall was 1·82 inch; and on December 12th it was 1·94 inch. The total fall for the 11 months was 22·38 inches. At Jerusalem the fall in the same months was 23·92 inches.

MONTHLY MEANS of the morning observations at Tiberias and Jerusalem in the month of January, in the years 1891, 1892, and 1893, and determination of the difference between them in each year.

In the month of January at	Barometric Readings.				Temperature of the Air.							Dry Bulb.	Wet Bulb.
	Highest.	Lowest.	Range.	Mean.	Highest.	Lowest.	Range.	Mean of all Highest.	Mean of all Lowest.	Mean Daily Range.	Mean.		
	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°
Tiberias, 1891	31·087	30·458	0·629	30·815	73·0	41·0	32·0	65·7	49·9	15·8	57·8	55·4	52·3
Jerusalem, 1891	27·599	27·096	0·503	27·415	61·0	31·5	29·5	51·2	40·5	10·7	45·9	46·7	44·7
Difference	3·488	3·362	0·126	3·400	12·0	9·5	2·5	14·5	9·4	5·1	11·9	8·7	7·6
Tiberias, 1892	30·118	30·431	0·687	30·838	74·0	44·0	30·0	69·4	48·9	20·5	59·1	55·7	52·4
Jerusalem, 1892	27·604	27·132	0·472	27·432	62·0	36·0	36·0	52·4	41·3	11·1	46·8	48·7	45·5
Difference	3·514	3·299	0·215	3·406	12·0	8·0	4·0	17·0	7·6	9·4	12·3	7·0	6·9
Tiberias, 1893	31·084	30·426	0·658	30·693	76·0	36·0	40·0	65·3	47·7	17·6	56·5	56·1	52·7
Jerusalem, 1893	27·538	27·102	0·436	27·298	65·5	30·0	35·5	52·4	40·6	11·8	46·5	48·0	44·5
Difference	3·546	3·324	0·222	3·395	10·5	6·0	4·5	12·9	7·1	5·8	10·0	8·1	8·2

By collecting these differences and taking their means the average differences have been found as follows :—

Month and Year.	The readings at Tiberias higher than those at Jerusalem.											
January, 1891	3·488	3·362	0·126	3·400	12·0	9·5	2·5	14·5	9·4	5·1	11·9	8·7	7·5
January, 1892	3·514	3·299	0·215	3·406	12·0	8·0	4·0	17·0	7·6	9·4	12·3	7·0	6·9
January, 1893	3·546	3·324	0·222	3·395	10·5	6·0	4·5	12·9	7·1	5·8	10·0	8·1	8·2
Means	3·516	3·328	0·188	3·400	11·5	7·8	3·7	14·8	8·0	6·8	11·4	7·9	7·6

These differences agree pretty well with each other, and therefore their means applied additively to the readings at Jerusalem in January, 1890, will give moderately approximate values for Tiberias for January, 1890.

Jerusalem, January, 1890	27·613	27·133	0·480	27·436	54·5	26·5	28·0	47·3	32·3	15·0	39·8	44·2	41·0
Add means as above ...	3·516	3·328	0·188	3·400	11·5	7·8	3·7	14·8	8·0	6·8	11·4	7·9	7·6
Tiberias, January, 1890	31·129	30·461	0·668	30·836	66·0	34·3	31·7	62·1	40·3	21·8	51·2	52·1	48·6

These values thus found have been inserted for January in the table, but all are marked with an asterisk to denote that they have been inferred. They must be considered as approximate only, and therefore of not the same weight as if they had been found directly from observation. The annual means may, however, be considered as very near the truth.

ERRATUM.

OCTOBER "QUARTERLY STATEMENT."

Page 341, line 16 from top—

For "exploit of the three" *read* "Philistine invasion."

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

The Committee are happy to announce that an extension of the Firman for the excavations at Jerusalem for another year has been obtained, and the work has been already resumed.

The strictest economy is employed in carrying on the excavations, but the expenses are necessarily great, and there is very urgent need of funds in order that the work may be continued whilst the opportunity lasts.

Dr. Bliss's report is accompanied by a large number of beautiful drawings by Mr. Dickie of specimens of masonry and of metal implements, earthenware lamps, vases, bottles, &c., which have been found in course of the recent excavations. Some only of these drawings are reproduced in the present *Quarterly*, and the others are reserved for future publication. It will be well to bear this in mind in reading the present report, in order to avoid confusion in the references to figures.

We publish this quarter an account of Herr von Schick's examination of the place well known to dwellers in Jerusalem as *Deir el 'Adas*. He found there a "double" church, or rather one church built over another. Within the precincts a "footprint of Our Lord" was pointed out to him.

Herr von Schick's exploration of the *Bab Hytta Quarter* shows that this is again becoming a "new city"—it is part of the ancient "Bezetha"—by the erection of new houses on the foundations of the old ones. It is odd to find the sewer leaking into an underground bakehouse; a similar condition of things has recently more than once been observed much nearer home. Curiously illustrative of Jerusalem's long and chequered history is the statement that the owner of this property professes to have title deeds showing that it has been in his family for 763 years, and *that it was a waste place when they got it!*

An important paper on the Onomasticon, by Lieutenant-Colonel Conder, will appear in the July *Quarterly Statement.*

Professor W. W. Davis, of the Ohio Wesleyan University, writes: "My class is now studying the life of David, I and II Samuel. I had no idea how your Raised Map would facilitate Bible study. To say that we are pleased with the map is only a faint expression of our appreciation. I wish every teacher of the Bible were fortunate enough to possess one. All our students and faculty are unanimous in their opinion that it is the best thing in this line ever made. It gives one an idea of Palestine that could not otherwise be had without a visit to the country itself."

Mr. George Armstrong's Raised Map of Palestine is on view at the office of the Fund. A circular giving full particulars about it will be sent on application to the Secretary.

The first edition of the new Collotype Print or Photo-relief from a specially prepared copy of the Raised Map of Palestine is sold out. A second and cheaper issue has been prepared. Price to subscribers, 2*s.* 3*d.*; non-subscribers, 3*s.* 3*d.*, post free.

The print is on thin paper, measuring 20 inches by 28½ inches.

The July number of the "Revue Biblique" (Paris: Victor Lecoffre contains an account of some remarkable Christian tombs discovered in 1894 at Bethlehem, and also of a Greek inscription recently found on the wall of the Holy Sepulchre at Jerusalem.

Photographs of Herr von Schick's models (1) of the Temple of Solomon, (2) of the Herodian Temple, (3) of the Haram Area during the Christian occupation of Jerusalem, and (4) of the same locality as it is at present, have been received at the office of the Fund. Sets of these photographs, with an explanation by Herr von Schick, can be purchased.

Tourists are cordially invited to visit the Loan Collection of "Antiques" in the Jerusalem Association Room of the Palestine Exploration Fund, opposite the Tower of David. Hours: 8 to 12, and 2 to 6. Maps of Palestine and Palestine Exploration Fund publications are kept for sale. Necessary information will be gladly given by the Rev. Theodore E. Dowling, *Hon. Sec.*

M. Clermont-Ganneau has kindly presented to the Library of the Fund a copy of his recently published "Études d'Archéologie Orientale," tome ii, livraisons 1-5.

I. Sur quelques localités de Palestine mentionnées dans la vie de Pierre l'Ibère, avec 2 plans.

II. Nouveaux Graffiti Araméens d'Egypte.

III. Zeus Saphathènes et les nouvelles Inscriptions Grecques du Haurân, avec 2 plans.

IV. Les inscriptions de Cheikh Barakât, avec 1 plan.

I. Peter was Bishop of Gaza, and died between 485 and 491 A.D. M. Clermont-Ganneau offers some interesting and valuable remarks in this paper as to the real position of ancient Ascalon and Gaza. Other sites dealt with are those of Sarepta, Magdal-Toûthâ, Kephar Se'artâ, Beit Tapheha, and Beit Iksâ.

II. A criticism of Professor Sayce's attempt at an interpretation of the Graffiti.

III. Valuable notes on the inscriptions collected by the Rev. W. Ewing and Mr. A. Wright, and published in last year's *Quarterly Statements* of the Fund.

IV. Description of interesting site near Aleppo, hallowed by S. Simeon Stylites, or other Pillar devotee.

The Committee have to acknowledge with thanks the following donations to the Library of the Fund :—

"Six Weeks in Egypt." From the authoress, Mrs. C. J. Brooks.

"The Tent of Meeting, usually called the Tabernacle." From the author, G. Woolworth Colton.

"Au Delà du Jourdain." From the author, Lucien Gautier.

The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and other Bible Lands. *See* list of Books, July *Quarterly Statement*, 1893.

The following have kindly consented to act as Honorary Local Secretaries :—

Montreal.—Rev. G. Abbot Smith, 2, Lincoln Avenue.

Liverpool.—*Hon. Treasurer*, T. Frederick A. Agnew, Esq., Bank of England, Castle Street; *Hon. Sec.*, Alexander B. Thorburn, Esq., 13, Rumford Street.

Worcester.—Ven. Archdeacon Walters, Alvechurch.

Dunedin.—Herbert Webb, Esq., Eldon Chambers.

Damascus.—Dr. E. W. G. Masterman.

Galashiels.—Kenneth Cochrane, Esq., Newfaan.

Mountain Ash, South Wales.—Rev. Owen Jones, in place of Rev. John Howell, deceased.

Sir Walter Besant's summary of the work of the Fund from its commencement has been brought up to date by the author and published under the title, "Thirty Years' Work in the Holy Land." Applications for copies may be sent to Mr. Armstrong.

It having again been reported to the Executive Committee of the Palestine Exploration Fund that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers of any sort or kind in their employ, and that NONE OF THEIR WORKS ARE SOLD BY ANY ITINERANT AGENTS.

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., every week-day except Saturdays, when it closes at 2 p.m.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

The first portion of M. Clermont-Ganneau's work, "Archæological Researches in Palestine," is now ready, and being sent to subscribers.

Branch Associations of the Bible Society, all Sunday Schools within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The income of the Society, from December 23rd, 1895, to March 21st, 1896, was—from annual subscriptions and donations, including Local Societies, £779 14*s.* 2*d.*; from all sources—£977 11*s.* 11*d.* The expenditure during the same period was £886 11*s.* 9*d.* On March 23rd the balance in the Bank was £358 0*s.* 1*d.*

STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING 31ST DECEMBER, 1895.

RECEIPTS.

			£	s.	d.
To Balance in Bank 31st December, 1894—					
Net Balance	£325	17 9			
Subscriptions paid in 1894 in advance for 1895	51	8 6			
			377	6	3
Donations and Subscriptions			1,737	3	8
From Lectures			6	5	0
From Sales of Books			310	7	11
From Sales of Maps, Photographs, Slides, Casts, &c.			438	13	9
			£2,869	16	7

EXPENDITURE.

			£	s.	d.
By Exploration			1,002	5	0
Printing and Binding, including the *Quarterly Statement*			431	2	3
Maps, Lithographs, Illustrations, Photographs, Slides, Casts, &c.			344	9	7
Advertising, Insurance, Stationery, and Sundries			43	3	4
Postage, of Books, Maps, Parcels, including the *Quarterly Statement*			129	9	5
Salaries and Wages			366	0	8
Office Rent, Gas and Coals			232	9	2
Subscriptions paid in 1895 in advance for 1896	£14	3 0			
Net Balance	306	14 2			
	320	17 2			
Balance in Bank 31st December, 1895			320	17	2
			£2,869	16	7

Examined and compared with Cash Book and found correct.

March 7th, 1896.

WALTER MORRISON, *Treasurer*.

TREASURER'S STATEMENT.

The total income of the Fund for the year 1895 was £2,492 10*s.* 4*d.*; of this amount £1,737 3*s.* 8*d.* was from Donations and Subscriptions; £749 1*s.* 8*d.* from sales of publications; and £6 5*s.* 0*d.* from the proceeds of Lectures.

The amount spent on Exploration was £1,002 5*s.* 0*d.*; on printing new edition of publications, including the *Quarterly Statement*, £775 11*s.* 10*d.* (the *Quarterly Statement*, which is sent free to all subscribers of 10*s.* 6*d.* and upwards, alone costing close on £500); on advertising, postage, insurance, and stationery, £172 12*s.* 9*d.*; the management, including rent of office, £598 9*s.* 10*d.*

Assets.	£	*s.*	*d.*
Balance in Bank, December 31st, 1895.. ..	320	17	2
Stock of Publications on hand, Surveying Instruments, Show Cases, Furniture, &c.			
In addition there is the valuable library and the unique collection of antiques, models, &c.			

Liabilities.	£	*s.*	*d.*
Printing, Lithographing, and Current Expenses	944	4	6

Subscribers are requested to note that the following cases for binding, casts, and slides can be had by application to the Assistant Secretary at the Office of the Fund:—

Cases for binding Herr Schumacher's "Jaulân," 1*s.* each.

Cases for binding the *Quarterly Statement*, in green or chocolate, 1*s.* each.

Cases for binding "Abila," "Pella," and "'Ajlûn" in one volume, 1*s.* each.

Casts of the Tablet, with Cuneiform Inscription, found at Tell el Hesy, at a depth of 35 feet, in May, 1892, by Dr. Bliss, Explorer to the Fund. It belongs to the general diplomatic correspondence carried on between Amenhotep III and IV and their agents in various Palestinian towns. Price 2*s.* 6*d.* each.

Casts of the Ancient Hebrew Weight brought by Dr. Chaplin from Samaria, price 2*s.* 6*d.* each.

Casts of an Inscribed Weight or Bead from Palestine, forwarded by Professor Wright, Cambridge, Mass., U.S.A., price 1*s.* each.

Lantern slides of the Raised Map, the Sidon Sarcophagi, and of the Bible places mentioned in the catalogue of photos and special list of slides.

In order to make up complete sets of the *Quarterly Statement* the Committee will be very glad to receive any of the back numbers.

While desiring to give publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the

Quarterly Statement, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

Subscribers who do not receive the *Quarterly Statement* regularly are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

The authorised lecturers for the Society are—

AMERICA.

Professor Theodore F. Wright, Ph.D., 42, Quincy Street, Cambridge, Mass., Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

(1) *The Building of Jerusalem.*
(2) *The Overthrow of Jerusalem.*
(3) *The Progress of the Palestine Exploration.*

ENGLAND.

The Rev. Thomas Harrison, F.R.G.S., The Vicarage, Appledore, Ashford, Kent. His subjects are as follows:—

(1) *Research and Discovery in the Holy Land.*
(2) *Bible Scenes in the Light of Modern Science.*
(3) *The Survey of Eastern Palestine.*
(4) *In the Track of the Israelites from Egypt to Canaan.*
(5) *The Jordan Valley, the Dead Sea, and the Cities of the Plain.*
(6) *The Recovery of Jerusalem*—(*Excavations in* 1894).
(7) *The Recovery of Lachish and the Hebrew Conquest of Palestine.*
(8) *Archæological Illustrations of the Bible.* (Specially adapted for Sunday School Teachers).

N.B.—All these Lectures are illustrated by specially prepared lantern slides.

The Rev. Charles Harris, M.A., F.R.G.S., St. Lawrence, Ramsgate. (All Lectures illustrated by lantern slides). His subjects are as follows:—

(1) *Modern Discoveries in Palestine.*
(2) *Stories in Stone; or, New Light on the Old Testament.*
(3) *Underground Jerusalem; or, With the Explorer in* 1895.

Bible Stories from the Monuments, or Old Testament History in the Light of Modern Research:—

(4) A. *The Story of Joseph; or, Life in Ancient Egypt.*
(5) B. *The Story of Moses; or, Through the Desert to the Promised Land.*
(6) C. *The Story of Joshua; or, The Buried City of Lachish.*
(7) D. *The Story of Sennacherib; or Scenes of Assyrian Warfare.*
(8) E. *The Story of the Hittites; or, A Lost Nation Found.*

Scotland.

The Rev. J. R. Macpherson, B.D., Kinnaird Manse, Inchture, N.B. His subjects are as follows:—

(1) *Excavations in Jerusalem*, 1868–70, 1894–5.
(2) *Lachish, a Mound of Buried Cities; with Comparative Illustrations from some Egyptian Tells.*
(3) *Recent Discoveries in Palestine—Lachish and Jerusalem.*
(4) *Exploration in Judea.*
(5) *Galilee and Samaria.*
(6) *Palestine in the Footsteps of our Lord.*
(7) *Mount Sinai and the Desert of the Wanderings.*
(8) *Palestine—its People, its Customs, and its Ruins.* (Lecture for Children.)

All illustrated with specially prepared lime-light lantern views.

The Rev. James Smith, B.D., St. George's-in-the-West Parish, Aberdeen. His subjects are as follows:—

(1) *The Palestine Exploration Fund.*
(2) *A Pilgrimage to Palestine.*
(3) *Jerusalem—Ancient and Modern.*
(4) *The Temple Area, as it now is.*
(5) *The Church of the Holy Sepulchre.*
(6) *A Visit to Bethlehem and Hebron.*
(7) *Jericho, Jordan, and the Dead Sea.*

The Rev. W. Burnet Thomson, Galashiels, N.B. His subjects are as follows:—

(1) *The City of the Great King; or Jerusalem and the Explorer.*
(2) *The Temple, the Sepulchre, and Calvary.*
(3) *Southern Palestine.*
(4) *Jerusalem to Damascus.*
(5) *Palestine and Jesus Christ (for children).*
(6) *The Bible and the Monuments. Discoveries in Ancient Land.*

All illustrated with lantern slides.

Wales.

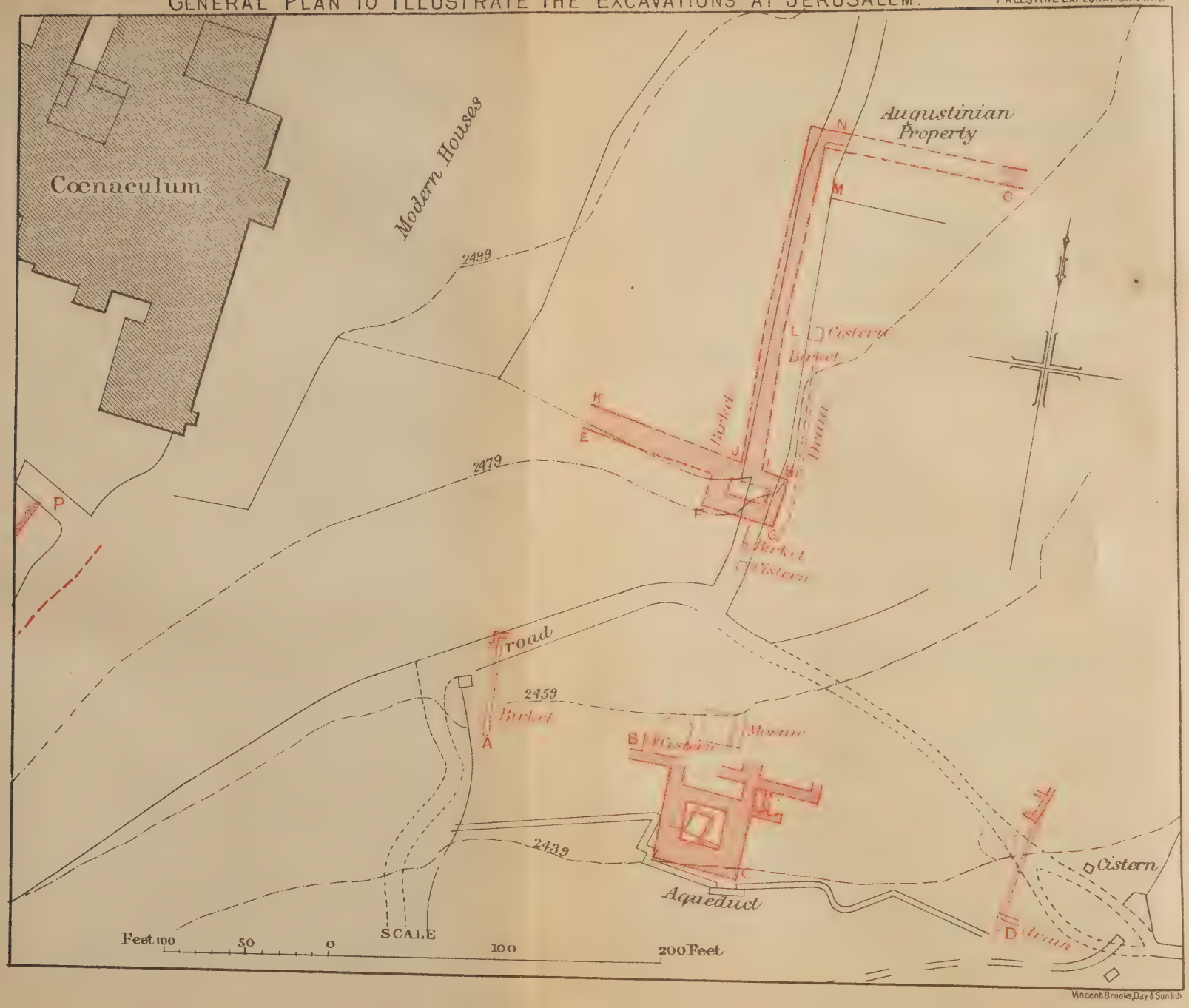
The Rev. J. Llewelyn Thomas, M.A., Aberpergwm, Glynneath, South Wales. His subjects are as follows:—

(1) *Explorations in Judea.*
(2) *Research and Discovery in Samaria and Galilee.*
(3) *In Bible Lands; a Narrative of Personal Experiences.*
(4) *The Reconstruction of Jerusalem.*
(5) *Problems of Palestine.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

General Plan to Illustrate the Excavations at Jerusalem.

Palestine Exploration Fund



Vincent Brooks, Day & Son lith

EIGHTH REPORT ON THE EXCAVATIONS AT JERUSALEM.

By F. J. Bliss, Ph.D.

The present report is intimately connected with the last, in which I wrote at p. 21: "As half of this report is taken up with Section AB (*see* p. 9 of January (*Quarterly* and plan), which was cut to ascertain whether any other walls ran across the line north of A, I am sorry that at the only two places where a city wall possibly runs the returns are incomplete." These two places were: (1) The large tower immediately north of the aqueduct, and (2) the smaller tower near B.M. 2479. The spade has now made these two points clear. The large tower is not upon a city wall. The smaller tower is at an angle of a city wall enclosing the summit of the western hill.

I have shown how this large tower projects from a system of chambers, with walls of the same general character, but of only half the thickness A comparison of the present plan with the last will show that we have found this system extending westwards from the tower. Work at B was complicated by the fact that we found a later building, with dry stone walls, resting on the older foundations, which are always on the rock. This later building has walls only 2 feet 9 inches thick, standing to a height of 7 feet, the ruined top being only 4 feet below the surface.

The lower wall is only 6 feet 6 inches thick; a good thickness when taken by itself, but slight in comparison with the tower walls, which, it will be remembered, are from 14 feet to 16 feet thick. Hence it did not seem to be a city wall. To pursue this system of chambers to the west seemed unadvisable. Although I believed it to have been originally connected with the tower, yet there remained the mere possibility that the tower once projected from a city wall of proportionate thickness, which had been destroyed, giving place to a later chamber system and to the large cistern. Accordingly we removed operations to a point (A) 115 feet west of the north-west corner of the tower, where a shaft was sunk, somewhat south of the projection of the west line of wall just described, in order to allow for a possible but extremely improbable divergence of this hypothetical wall to the south-west. I watched the progress of this shaft with interest, as the deeper the rock the greater would be the chance of finding remains *in situ*. To my delight, rock was not struck till we reached a depth of 28 feet 8 inches. At the north end of the shaft was a wall covered with plaster, ornamented with a rude zigzag pattern. Breaking through this wall, we found its thickness to be but slight. It turned out to be the south wall of an open birket, otherwise rock-hewn, with six steps, plastered, descending from the north. We then pushed our tunnel north for 50 feet along the rapidly ascending rock, breaking through rude, thin house walls, none of which showed the characteristics of the masonry of the tower system, which I have shown before to have been embedded in a strong cement, perfectly recognisable.

The tunnel is marked on the plan, and a glance will show that it was driven with a view to exhaust all possible positions for a city wall in connection with the large tower and to the west thereof.

There remained, however, the chance of finding a city wall beyond the system of chambers to the east of the tower. A shaft was sunk at D, 160 feet from the north-east corner of the tower, to allow for a turn to the south-east in case the wall ran down to Siloam. At a depth of 9 feet 6 inches was found the rock-bottom of a drain, with masonry walls covered with plaster, 4 feet high and 1 foot 8 inches broad. From this point an open trench was driven north by north-west, the depth of soil being slight. We passed four small channels, not resting on the rock, evident feeders of the cistern to the east, marked on the map. They are only 4 inches cube, their floor and walls are formed of a concrete of ashes, chips, and lime, smooth inside, and they are covered with small slabs. I descended into the big rock-hewn cistern and found it to measure 19 feet by 29 feet.

After pursuing our open trench for 38 feet the soil, though never more than 10 feet deep, became firmer, and we were able to push on in a low tunnel. Breaking through a channel similar to those just described we followed along thin house walls at two levels. The corner house has a mosaic of white tesserae in the rock. The later is only 3 feet above the earlier, has its own white mosaic, and is itself buried by a stone pavement. Hence we have three systems of buildings, of different dates, none older than Roman times, none showing the characteristic work of the tower system, and all in a depth of soil of only 10 feet. The length of trench and tunnel north by north-east from D was 90 feet.

To recapitulate: (1) our work immediately to the east and west of the large tower shows that in its present state it is not in connection with city walls; (2) our trenches at A and D have proved that if the large tower ever projected from a city wall, such a wall is entirely destroyed 115 feet west and 160 feet east of the tower; (3) the wall looked for was one having the characteristics of the tower walls. These were from 14 feet to 16 feet thick, faced with rubble built in courses averaging 20 inches high, pointed with strong mortar made of lime and ashes. In following the scarp to the west of the rock-hewn chamber under the tower (*see* plan facing p. 16, January *Quarterly Statement*) we were obliged to quarry through the breadth of the west wall. So hard was this same mortar all through the interior of the wall that it would have been easier to quarry through the solid rock. It is hard to see how such a wall could have been destroyed beyond all recognition at any point, especially where it would be crossed by the tunnel from A, where the accumulation of soil is almost 30 feet; (4) to prove a negative in archæology is difficult. To show a thing does not exist is one thing, to prove that it never did exist is another, but all the evidence is strongly against the idea that the large tower ever projected from a city wall. The position is against it. Two hundred feet to the south we have found a city wall (probably of Jewish times), in places covered with débris, separating it from an upper line of wall representing Roman or Christian times. These walls occupy the

best strategic position, following the top of the steep slope above the valley. The tower, from various considerations discussed before, appears to be Roman. Why should another and less favourable position for a city wall have been chosen so near the old line?

The tower, then, appears to be merely a feature in a system of chambers, the extent of which was not determined, and the nature of which remains a mystery. The rude character of the masonry is shown in "Specimen at C."[1] Only the corner stones are dressed, but the line traced represents the original face, *i.e.*, the rubble shows absolutely no traces of ever having been faced with dressed stones.

In my last report I showed how the rock-hewn chamber, over which the tower was built, was entered from an open court to the south. Later investigations have shown that another similar chamber was entered from the east side of this court. The rock had been much quarried away before the tower was built, the roof is gone, the rock sides are partly destroyed, and we were able to recover only one dimension, the length of the north side, which is 10 feet 3 inches. As seen from the plan, the place occupied by this second chamber was in later times built over by the south wall of the tower. In the north side is a recess, 4 feet high (its bottom stepped up from the floor of the chamber 10 inches), similar to the recesses found in the other chamber. The fact of the destruction of this chamber before the building of the tower increases my belief, expressed before, that we have here only ordinary rock-hewn dwellings that occurred by chance at the spot where a lofty tower was to be built.

We now come to the wall discovered north of the fork of the wall that comes from Bâb Neby Daûd. Part of the corner tower has been described before. From the plan it will be seen that we have a massive wall coming from the west with a tower projecting from the south-east angle. It then runs northward to the point N for some 70 yards, and then appears to turn to the east in line with the wall O, of similar thickness and construction, found by the Augustinians in their land, and followed by them for some distance east. There are also indications that, beyond, it turns towards Burj el Kebrit.

An account of the steps leading to these discoveries may be instructive. I have shown how (p. 20, January *Quarterly*), we first struck the tower near its south-east corner, but the facing stones of the south side were all gone. We then followed along the ruined top of the east wall, which was buried by scarcely 4 feet of soil, just inside, and not observing its east face, till we found the north face IH, and returned in a tunnel on the rock along the east face to within a few feet of the ruined corner G. The masonry at IH is shown by the specimen.[1] The courses are from 14½ to 25 inches high. All the stones are well dressed and set in lime. Many are margined, the rest are plain-faced. The margined stones are chiselled all over, and their projections are flat, in contrast with the rough boss so often found before. The plain-faced stones are dressed with a peculiar sharp tool, some showing a re-dressing with the comb-pick. This masonry occurs along the line HG, dwindling down to one course and

[1] Not published.

disappearing within a few feet of the corner. This explains the absence of facing-stones at the point where we had struck the south side.

From H to I is 16 feet, and at I the dressed masonry came to an end, but not in a straight joint. It appeared to be bonded into a wall of rough foundation work, but with no definite face, which ran north. But a new shaft at J revealed a satisfactory *inner angle* of a wall, coming from the west and turning to the north, built of similar irregular-sized rubble set in mortar. To prove the identity of this wall running north from J with the foundation wall running north from I, we broke through at J, finding the masonry continuous to I, giving a thickness of 12 feet for the wall. Meanwhile, shafts were sunk near L and at a point south of E. The first revealed a wall at L in line with I, which was traced north for 23 feet, when we left it, and transferred operations to M. Though consisting of courses of small rubble, set in lime, it has a thickness of 9 feet. The second shaft, sunk at a point enough to the south of E to catch a possible projection of the line FG (for F was not then known), did not reveal that projection, but a tunnel driven north struck a wall of rough rubble similar to L, which was traced westwards for 34 feet. We ascertained its thickness to be 13 feet, which brings its inner face at K in a line with the wall running west from J. Hence, E is the outer face of the wall whose inner face was seen formerly at J. The wall at E is built in some places on a scarp 2 feet to 3 feet high. My reason for not pushing this wall beyond E was that we had done just enough work on it to prove it to be a city wall, and as we could not follow it much nearer the Cœnaculum, a halt could be called just as well at one point as another.

At M we again struck the wall running north, in line with the part seen at L. Here the rubble was not set in courses. The thickness is over 8 feet. We followed it north for 35 feet, to a point where it is much ruined, but from certain remains we believe that it turns south in line with O, the bit found by the Augustinians. This point will be settled when I return.

The last point to be determined was the south-west corner of the tower. A shaft was sunk to the part of the road in a line with G. Resting on the rock we found one course of the same face masonry which had been seen at IH, and along HG, and which was missing from this same line, FG, immediately under the road. Pushing west, we found much confusion in the remains. The lower courses of the wall were buried by a block of fallen masonry, the stones still bound together by mortar, and showing an inner angle, *i.e.*, the corner of a chamber. The only explanation was that an earthquake had loosened the upper part of the tower, and that a portion immediately above the lowest courses had slid forwards in a mass, for about 10 feet, without turning over. The thickness of the tower walls was supposed to be from 8 to 10 feet. Assuming that this dislodged mass had not altered its north and south axis, the south-west outer angle of the tower was to be looked for 8 or 10 feet to the west of the point where the inner corner rested on the buried courses. To break up the fallen mass was undesirable, so we sunk

another shaft at F and were fortunate enough to come down immediately upon the desired outer corner. At the date of my former report I had ascertained only the length of the east side HG, and had assumed the tower to be square. The inner face of HG was not seen, and as its thickness was at least 8 feet, I argued that the supposed square tower must be solid, as no space would be left for a chamber within such thick walls. Further investigation, however, has shown that the tower is not square, and that the outer walls would leave a space within for a chamber at least 25 by 10 feet. Moreover, the earthquake has relieved us from the necessity of an especial search for this chamber, as the mass of masonry which it caused to slide forward brought the desired proof under our very eyes.

From F we could not push along the west side of the tower northwards to its junction with the main city wall, as in our path stood a cistern which the proprietors guarded jealously.

The determination of the line of this interesting wall was the most trying task we have ever had. Land-owners and crop-owners were constantly in evidence. These difficulties were overcome from day to day, but the process was wearing. Our chief foe was the weather. The main features of the wall were quite clear on January 2nd, and we then needed only six or seven days' work to complete the detailed proof. But how to secure these days? Night after night the sky promised to clear, and morning after morning the descending torrents filled us with chagrin. Now and then we snatched a day's work, or were thankful for even a half day's work. But there were certain points to settle before we could leave these proprietors, and I determined to hold out rather than to risk a return upon their dubious hospitality in the spring. On Saturday morning, January 18th, we were still looking for the last link, the corner F. At noon the weather was so bad I told Abu Selim to stop the works, but he pleaded for a few more hours. At 2 a messenger came to the hotel announcing that there were signs of the corner. At 2.10 came another announcing that it had been found. A few minutes after Mr. Dickie and I were on the ground, verifying the joyful news.

Having proved the wall to be continuous from E to M, we may now call attention to the following points:—It always rests upon the rock, but the accumulation of soil over its ruined top is nowhere great. At J it stands to a depth of 16 feet, with 4 feet 6 inches of accumulation above it. At L its face is only 10 feet under the road; one tunnel revealed 4 feet of its height, how much more may be preserved was not ascertained; its thickness varies from 9 feet to 13 feet, a variation not to be wondered at in such rough work. Mortar is used all through the thickness of the wall. The main wall (in distinction from the tower) consists of rough rubble, which presents no evidence of ever having been faced with dressed stones except at one point. At J there is one course of dressed stones, 14 feet above the rock. These project 9 inches from the rubble, and are of small size, as might be expected along the *inside* face, *i.e.*, within the town. The wall is evidently late, and as there are signs that the district was occupied before it was built, the parts seen may have been always

underground, the upper dressed courses having entirely disappeared, except the single inner course at J.

The faces of the tower, however, show dressed masonry down to the rock. But we have in ancient Jerusalem precedents illustrating this discrepancy. The Ophel wall of rubble, discovered by Warren, has towers of well-dressed masonry projecting from it, and the beautifully-built tower discovered by us near the gate by the Pool of Siloam was added to a wall of ruder work.

That this wall is late is proved by the fact that while boring through it at L to ascertain its thickness, we found a bit of zigzag Romanesque moulding built into its foundations. It may be part of a wall built by the Crusaders to enclose the Cœnaculum, or it may have been thrown up by the Saracens.

The question of the line of this wall beyond E, to the west, opens up a problem that was started more than a year ago. The wall traced by me to Siloam properly starts from the top of the fosse, 105 feet north-west of the first gate discovered. (*See* plan in *Quarterly*, January, 1895.) This fosse separates it from the tower connected with the wall of Mr. Maudslay. From the tower I traced a masonry wall along the top of the scarp for some distance to the north-east. The fosse, which is deep around the tower, follows the north-east scarp, but becomes shallower. I attributed this fosse to an inner wall or to an inner fortress, preferring the latter view at the time. It was traced as far north-east as I could approach the Cœnaculum, a point marked P on the present map, which should be compared with the former. Do these two lines join? This is a question which can probably not be definitely settled, owing to the position of the Cœnaculum. In favour of the union is their direction. Apparently against it is the difference of the masonry of the tower near fosse and of the tower just found, the former consisting of two courses of drafted stones with the rustic boss, and with margins dressed with the "pock-marking," but, as I noticed on p. 251 of the *Quarterly*, October, 1894, many of the *fallen* stones around the tower show on their margins the diagonal comb-pick dressing characteristic of Crusaders' times. Again, there is no fosse in front of the wall at E, which stands on a scarp only 3 feet high, but the rock, followed for 40 feet to the south, falls so rapidly as to allow of no ditch. Hence the absence of it is no proof against the identity of the two bits of wall.

In our work about this wall we came across various remains. Parallel with the east side of the tower runs a drain, with rock-hewn sides, 3 feet broad. This was seen again near L, where its walls are of masonry, 3 feet 6 inches high. It may be identical with one or more of the three bits of drain found in the same general line to the south and shown on the last plan.

At L it cuts through a previously-ruined rock-hewn birket, which has five steps descending from the east. This birket is similar to the one south of the tower, described in the last report, to one over which the wall is built at J, to the one near the point A, and to the one discovered during our first season near the fosse. A section of the latter has been

sent to London. They are all open, having rock-hewn sides, plastered, with descending steps, which leave a small pit at the bottom from 2 to 7 feet wide. Outside the wall, south of L, there is a small room, perhaps older than the wall, as it has a white mosaic flooring, itself buried by a pavement. At L there is a fine rock-hewn cistern, the discovery of which brought joy to the proprietor. Near by was found *in situ* the base of a column. Near E the city wall was plastered and covered with a bit of rude, coloured fresco, in the Gothic style, with vine-leaf pattern, probably belonging to a later dwelling built up against the wall. There were also signs of rude buildings to the south of E.

In my former reports I have dwelt little upon the pottery, as I wished to guard against drawing hasty conclusions. Now that I have carefully observed many thousand specimens during more than a year and a half of work over a large area, noting their distribution, I am able, with the aid of Mr. Dickie's accurate drawings, to state certain definite results of our investigations.

The pottery is divided into three general types: (1) Jewish, (2) Roman, (3) Byzantine, and later. The Jewish types have been found almost

No. 2.

exclusively in connection with the older city wall, traced, at different points, from its south-west to its south-east angle, and along the base of the great scarp which protects this wall at the south-west. Those found most commonly and always associated are Nos. 1, 2, 6, and 11. No. 2 is a pot with a globular body, rounded at the bottom, with a short neck and small handles springing from the brim. It is made of fine paste of a

purplish brown, is wheel-turned, showing a very faint ribbing. The specimen drawn was found with two or three other whole ones at the base of the old wall a few yards north-west of the gate near Siloam. These pots were usually smoked, showing that they were used for cooking. This type occurred frequently at Tell el Hesy in cities 6–8, which cover a period from 800 to 400 B.C. Some specimens occurred still earlier, merged with Phœnician types. The ware and the shapes are identical. The only difference is that the type at the tell show no signs of the faint ribbing. The type is shown in Fig. 240, in my "Mound of Many Cities." This differs from the specimen drawn here in the position of the handles, which, though springing from the neck, rest further down on the body of the pot; but I have a photograph, taken at the tell, of another and more characteristic specimen, which shows the small handles similar to those found at Jerusalem.

No. 1 is an open lamp, a coarse development of a Phœnician type, from which it differs by springing from a stand. This type was also found with the Jewish pottery at the tell (*see* Fig. 237 of my book). No. 6 is of the Pilgrim Bottle type, known in Cyprus. It is of red paste, wheel-turned, with the handles streaked down by the fingers. A similar shape, but with more circular handles, occurs in the Tell el Hesy photograph, just mentioned, which represents the pottery of cities 7–8, ranging from 500 to 400 B.C. Petrie notes that this shape is found much earlier at the tell (*see* Figs. 159–160 of his Tell el Hesy). The photograph also shows a third type of jar, of which fragments were found at Jerusalem, but not drawn here.

No. 4.

No. 6.

No. 4 is found at Jerusalem in connection with Nos. 1, 6, and 11, but not so frequently as these. It is made of fine red paste. Nos. 3 and 5 are small open lamps of a type in use during Phœnician times, and not unlike those used in Palestine to-day! The beautiful shape No. 7 was found inside the tower. It is made of a very fine grey paste; I do not recognise the type. No. 8 is of the light-red paste, characteristic of Phœnician ware. No. 9 is similar in material, but its shape, as well as hat of No. 10, is uncharacteristic. No. 11 is most common, and, as I

have said, always found in connection with Nos. 1 and 6. It is made of very thick reddish paste. No specimen was found whole, but the shape of the vessel may be reconstructed from the three bits, which evidently belong to the same type. It is a thin flask, with long neck and stand and a small body. The bottom of the stand is always curiously marked.

No. 12 was also found along the old wall. It is a handle similar to those found on early Phœnician bowls (*see* No. 181, "Mound of Many Cities"), but differing in having a hollow circular end. In connection with these old types, we also found bits of the high Greek vases with knob-like terminations (*see* Fig. 236, "Mound of Many Cities"), and with handles springing from the neck and descending perpendicularly to the body. These at the tell come down to 400 B.C. from earlier times.

Nos. 13, 32, and 33 suggest Phœnician types. Nos. 49 and 50 recall the well-known Phœnician female figures, with pointed breasts and beak. No. 14 represents a type of twisted moulding found on Jewish pottery at Jerusalem. At the tell it occurs on the earliest Amorite ware (*see* Fig. 92, "Mound of Many Cities").

Another characteristic of the early pottery was found in the *burnished facing* occurring on many small fragments. Petrie shows how this lasted from the earliest Amorite time down to the Jewish period, when it occurs in a debased form. He says: "The earliest burnishing on the red face is in wide open crossing lines, which yielded to closer patterns, and in late times a mere spiral burnishing made on the wheel." Figs. 83 and 88, "Mound of Many Cities," illustrate this type. The two other specimens found in connection with the old wall are the inscribed jar handles Nos. 46 and 47. The former was found at a depth of 26 feet in front of the wall crossing the mouth of the Tyropœon valley. The inscription is somewhat defaced.

We now come to the Roman pottery. This was found (1) near the surface of the ground almost anywhere; (2) inside the old wall at any

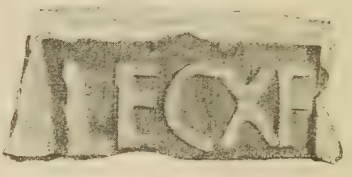
No. 36.

depth in connection with Byzantine and Arab pottery; (3) embedded in the packing inside the tower north of the aqueduct and around that tower; also in the *débris* around the wall discovered near B.M. 2,479;

(4) never near the base of the earlier or lower wall, including the part branching north from the main wall crossing the mouth of the Tyropœon valley.

The well-known types showing the pronounced Roman ribbing have not been drawn. Numerous tiles turned up, some of them having the stamp of the tenth legion—LEGIO X FRETENSIS, but in abbreviated form, shown in Nos. 36–38. On No. 36 may be seen a boar, which was a

No. 37.



No. 38.

symbol used by this legion. No. 35 is a bit of a bowl ornamented with heads in a late Roman style. The fragment of a dish, No. 51, appears to be made of mock-Samian ware, and shows the figure of a horse.

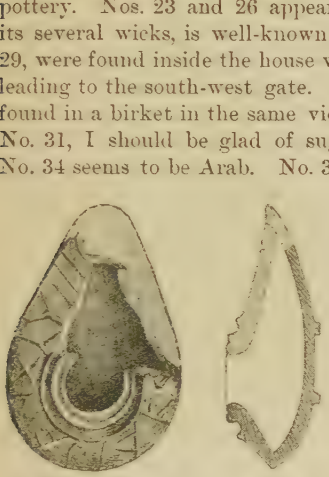
The rest of the pottery is mainly Byzantine and Arab, and was found at various points inside the old wall. Nos. 15–27, are lamps, and represent the same types discovered by Sir Charles Warren. Nos. 15 and 16 were found in the sepulchral cave under the mortuary chamber with beautiful mosaic, which dates from the fifth or sixth century, A.D., discovered north of the Damascus Gate and illustrated in the *Quarterly Statement* for January, 1895. No. 16 has a Greek inscription. No. 17 is more richly ornamented and may be later. The ornament in No. 18 is

No. 16.

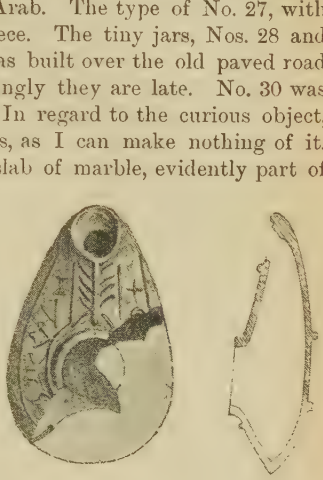
No. 18.

made by the repetition of two letters. No. 19 is stamped with the well-known inscription ΛΥΚΝΑΡΙΑ ΚΑΛΑ—"pretty little lamp." The fragment, No. 20, also has an inscription in highly ornamental letters which I cannot make out. This was found above the outlet of the drain which runs under the gate at the south-west corner of the old city. The

round lamp, No. 21, may be older than the above, and may be a development of the plain No. 22, which was found in connection with older pottery. Nos. 23 and 26 appear to be Arab. The type of No. 27, with its several wicks, is well-known in Greece. The tiny jars, Nos. 28 and 29, were found inside the house which was built over the old paved road leading to the south-west gate. Accordingly they are late. No. 30 was found in a birket in the same vicinity. In regard to the curious object, No. 31, I should be glad of suggestions, as I can make nothing of it. No. 34 seems to be Arab. No. 39 is a slab of marble, evidently part of



No. 19.



No. 20.

a mould for casting metal crosses. The incisions are one-sixteenth of an inch in depth. Provision is made for the liquid metal to run out at either end. Nos. 40–45 are interesting, as they show various forms of old crosses. No. 48 is a marble fragment with vine-leaf ornament.

The above facts in regard to the distribution of the pottery throws light upon the age of the walls we have been tracing. We have shown that more than half of the types found in connection with the old wall were also found at Tell el Hesy, representing Jewish and other work, dating from 800 to 400 B.C. Moreover, these types include no Roman work, which was common inside the tower. This fact, taken in connection with the failure to find any other ancient wall in our great section, AB, points to a Jewish date for the lower line of wall running down to Siloam, as well as for the wall branching north to the west of the pool. The presence of Roman and Byzantine pottery immediately within the old line of wall shows that the whole western hill was occupied after the Christian era, a fact which the numerous mosaics substantiate. The wall superimposed upon the lower, shown in the Plan for January, 1896, probably belongs to this period. The absence of Jewish pottery, and the prevalence of Roman and later ware in connection with the tower north of the aqueduct, show it to be late, a conclusion drawn before from other considerations. The wall described in this report, which encloses the top of the western hill, shows also the same late types. The scarcity of Jewish pottery inside the Jewish wall, and its prevalence near the outside base of the wall, may be explained by the fact that the Roman and later towers never extended beyond

the line of the old wall, which was buried in earlier *débris*, but within this line the later dwellings, founded on the rock, had caused a disappearance of the earlier remains.

There remain to be described a few general objects. No. 52 is a type which occurred at the tell at various levels. (*See* Fig. 256 of my book.) It is a polished article in bone, shaped like a pointed paper cutter, perhaps used in arranging a pattern in weaving. This specimen was found by the old wall, as was also No. 53, also of bone, which resembles a flat spoon. No. 54 represents a type found universally in Palestine, and also in Greece. At the tell I called similar objects in slate spindle-whorls. The present specimen is of bone, prettily ornamented. No. 55, found near the tower north of aqueduct, is a needle of bone. The thumb from a statue of native marble, No. 56, has been referred to on p. 256 of the *Quarterly* for October, 1894. Nos. 57 and 58 are spear-heads, the former of iron, the latter of bronze. The massive iron nail, No. 59, was found under the road coming from Bab Neby Daûd. No. 60 is an instrument of bronze, with a flattened-out head. The brass lamp-handle, No. 61, was one of the first objects found; it is late. No. 62 is a dish-handle in bronze. The bronze buckle, so like a buckle of to-day, occurred inside the gate near Siloam.

The coins found, in our excavations from the beginning, have all been of copper, much corroded. Of the 130 coins examined by the Rev. Theodore E. Dowling, only 28 are at all legible. They have been found, as a rule, within the old city wall, and in no case near the base of the wall. Mr. Dowling's identifications of the 28 legible coins are as follows:—

1. Coin of Herod the Great, B.C. 37–4.
2. Coin of Coponius, or Marcus Ambivius, or Annius Rufus (Procurators), A.D. 6–15.
3. Coin of Annius Rufus, Third Procurator, L.M. (year 40), A.D. 13–14.
4. Possibly a coin struck by Valerius Gratus, ΙΟΥΛΙΑ, Fourth Procurator, third year, A.D. 16–17.
5. Coin of Herod Agrippa I, A.D. 37–44.
6. Coin of Antioch. Roman emperor (obverse), name doubtful.

7–8. Two late Roman coins.

9–12. Four Arab coins.

13–15. Coins of Constantine I, A.D. 307.

16–18. Coins of Constantine II, A.D. 337–340.

19. Coin of Romulus Augustulus, A.D. 475.

20–21. Coin of Justin I, A.D. 518.

22. Coin of Justin I and Justinian I, A.D. 527.

23. Coin of Justinian I, with full-face portrait, A.D. 527–565.

24. One late Byzantine coin.

25. Roman coin; Colonial? (Palestine).

26–27. Two Saracenic coins.

28. Coin showing (possibly) the cross of a Count of Edessa, c. A.D. 1068.

It has been an unusually stormy winter. During December we lost only seven days of work from the weather. During the first week of January we secured five days for work, but the second week we could work only two and a half days, and the third only two days. Accordingly we decided to take our holiday at a time when work was impossible. For even when there is no wet, these fellahîn are paralysed by the cold. They do not know how to resist it by putting more vigour into their work, but stand shivering about. I have never seen them prostrated by the heat.

My plan was to go to Beyrout. Mr. Dickie was to accompany me to that point, and then sail on by the same steamer to Smyrna. But a half hour after we reached Jaffa, a telegram announced that Turkey had declared quarantine against Egypt. Hence there was no steamer to take us north. For three days we saw steamers passing by, and for a time it seemed as if we should have to ride to Beyrout along the coast. But a Turkish steamer appeared from Beyrout on the third day. The accommodation was of the poorest, but we were glad to arrive at Beyrout "clean," in a technical sense. While Mr. Dickie awaited his opportunity to go north, I took him up the slopes of my favourite Lebanon, to stop the night with our foreman, Yusif, Abu Selim, who gave us a cordial welcome. It was a day of glorious views, to the west the great blue expanse of sea, to the east the main ridge of the Lebanon, of a dazzling white, against which the cedar groves showed dark.

Two days after Mr. Dickie left for the north, the St. Lunniva, Mr. Perowne's excursion steamer, came in. On his invitation, my father and I joined the party after their return from Damascus, and we sailed direct to Smyrna. The first face I saw there was Mr. Dickie's, who at once joined the party. We had a pleasant day at Ephesus. At Constantinople we had only one day. I had but one object, and that was to see the Imperial Museum and its Directors. Unfortunately, Hamdy Bey had just left, but his brother, Khalil Bey, the Sub-director, received me most cordially, and I passed a delightful hour. Considering the multitude of matters that must come under the observation of the director of a museum, I was astonished as well as gratified at the touch which Khalil Bey has kept with the many details of our excavations. His Excellency took me all over the museum, including the archæological library. As to the Sidon sarcophagi, they surpass in beauty anything that one could imagine of them. One might well go to Constantinople with the simple object of seeing these treasures. Unfortunately, I could pass only hurriedly through this most interesting museum, merely glancing at the Siloam inscription, the Hittite remains, with a look at my Tell el Hesy tablet.

I made another attempt to see Hamdy Bey at his other office, but was sorry to miss him again. So little can be done in one day! But it is a great comfort to feel that to this well-arranged, well-managed museum are to go such treasures as we may hope to find.

At Athens we left the large party. My father and I had six days here. It was pleasant to meet the Directors of the British and American

Schools of Archæology. I had several valuable walks with Mr. Dickie, taking many interesting notes of things which throw light on points in our own excavations. We left Mr. Dickie to study in Athens, and arrived here last week, when I at once began this report. Though we had been followed by good weather, during our absence there had been hardly one clear day in Syria and Palestine. My sixteen days' trip was very beneficial. It took me away from the Arabic language, which I had heard every day for two years and a half; it took me off into Europe, if not into a full Western civilisation; it took me into a colder, more bracing atmosphere; and it brought me back feeling as if I had been away for six months.

Beyrout, *March 3rd*, 1896.

Errata: January "Quarterly Statement."

P. 12, line 15 from top, *for* "establish" *read* "substitute."
P. 16, „ 20 „ „ "separation" „ "reparation."
P. 17, „ 3 from bottom „ "course" „ "corner."

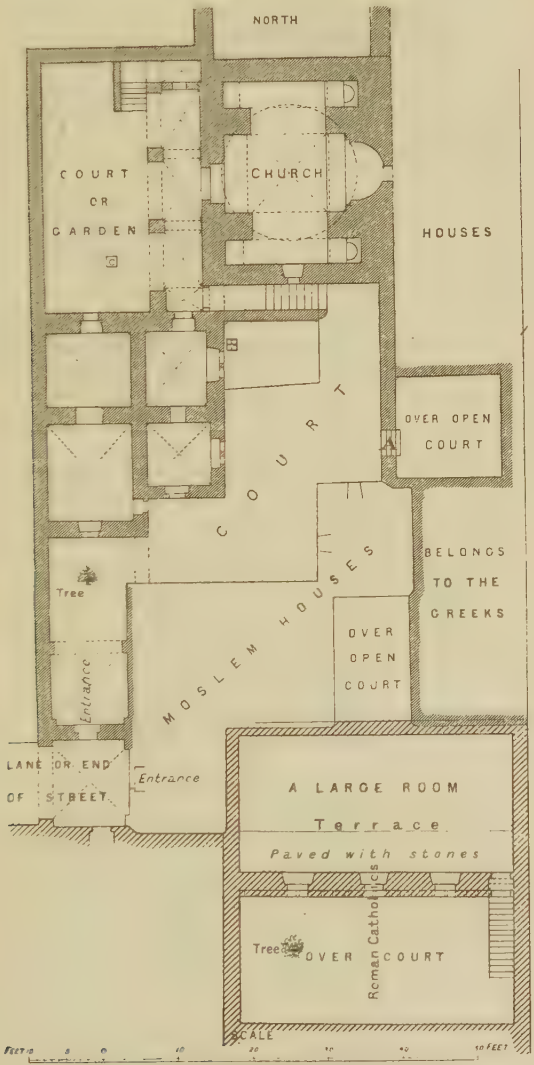
REPORTS FROM HERR BAURATH VON SCHICK.

I. *Deir el 'Adas.*—For several months I have been searching for churches and similar buildings in the Holy City alluded to in old records, and to find out under what name the churches may have been mentioned in various writings. So I came also to the so-called "Deir el 'Adas." Its small but nicely shaped dome I had often seen from a distance, but never had a near view of the building itself. As it stands not on any road or street one does not easily come to it, but can see it from a distance, projecting above the roofs of the houses. So I knew very little about it, especially as it is not mentioned in the many books on such subjects,[1] nor entered in plans or maps of the city. I found it only mentioned in Tobler's "Topography," I, p. 445, as a "deserted mosque," and as near to the so-called "Medinet el Hamra" (the Red Minaret), so I had always the idea that both belonged together, and that it being a Mohammedan ecclesiastical place it would not be easy to go there and examine it; but when recently making some enquiry I learned that they are two different places, and that "Deir el 'Adas" was in possession of the Greek Convent, so I went there to examine the matter.

When passing along the eastern part of the so-called Via Dolorosa, and coming east of the Ecce Homo Arch, to the corner of the barracks,

[1] In the *Quarterly Statement*, 1889, p. 10, Dr. Chaplin remarked that the Church of "St. Peter ad Vincula, from the situation indicated on the plan, can hardly be other than the Deir el 'Adas now in possession of the Greek Church."—(Ed.)

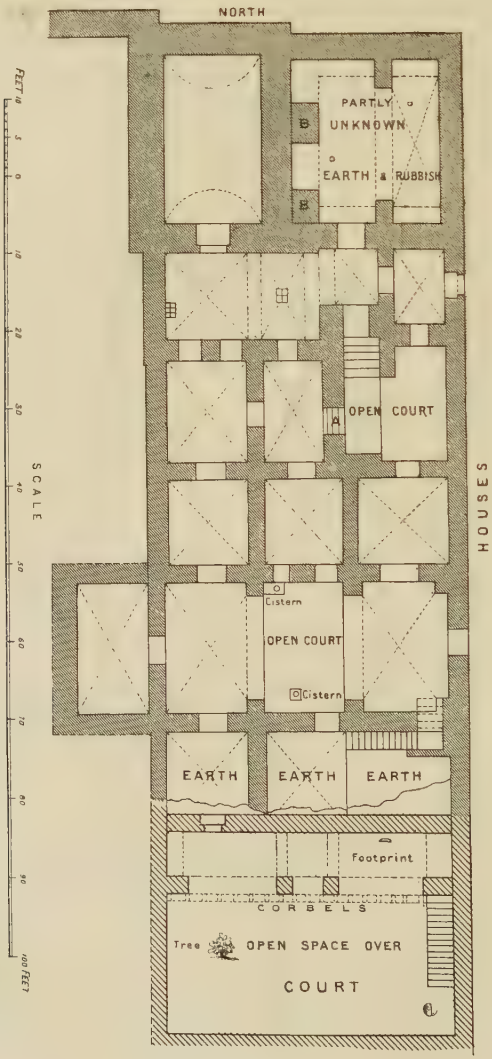
my guide took me northwards up the road between the Convent buildings of the Sisters of Zion, ascending the hill to where the next side roads



I.—Plan of Ground Floor of Deir el 'Adas.

branch off crossing the one by which we came, we entered the eastern one, or the *Hosh Bakir* (*see* Key Plan or Ord. Surv. Map, $\frac{1}{2500}$), and went

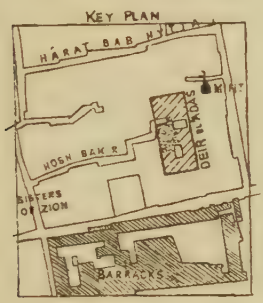
to its end. This end part is covered with a cross arching, and the walls of the three sides have each a door; the southern leads to rooms and

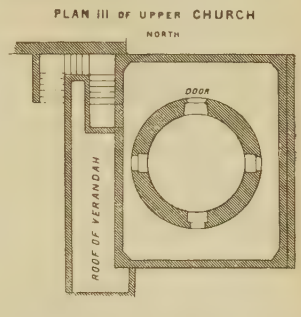


II.—Plan of Underground Floor of Deir el 'Adas.

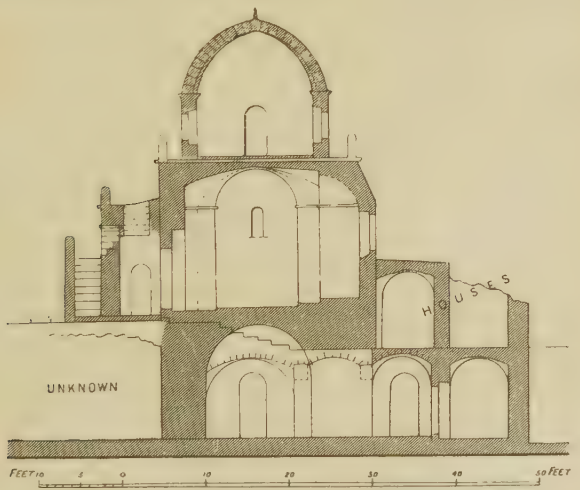
ruins belonging to Roman Catholics, the eastern to rooms inhabited by Moslems, and the northern to the place which I wished to examine,

the Greek place of "Deir el 'Adas." Although there are many rooms in the latter, yet only one family is living there, and we found it entirely empty, as the family was gone to reside during the summer in a house outside the city. The neighbours had the key, and opened the house for us. On entering we found the place is first covered (*see*





Plan I), then further on open, as a kind of court; a large tree is also there; passing across the court we came to a short flight of steps, and went through a door into a kind of corridor (or a vestibule), which has before it (westwards) a neglected garden. From this vestibule a door



IV.—Section of Old Church in Deir el 'Adas.

leads eastwards into a church of small dimensions, built curiously, and dark, having only two little windows, one over the large apse and the other in the south wall. It is used as a store. It was built as a lower and an upper church, for, outside in the court, a stair leads up, as one

would think, to its roof; but on going up there is found to be a platform with a parapet wall round about it, and in the middle stands another round church, and covered with the above mentioned dome. (*See* Plans III and IV.) On the northern side is the entrance door, and on the other are windows. The workmanship is good, and the dome is made up of stones, carefully cut, so that it stands without the use of mortar. If this were not the case the dome would have fallen down long ago, as I could not see that repairs had ever been made.

By this double church, one above and one below, one is reminded of the ancient Church of Zion, with its upper room (Acts i, 13); and, besides Mar Hanna in the south-west corner of the block of the Muristan, I know no other in the present Jerusalem. The Red Minaret stands near, on the north. It is now a single isolated tower, and is no longer in use, as I found the stair in it blocked up, and was told that it is dangerous, and anyone who goes up will soon die! The mosque once belonging to it is fallen down, forming a heap of stones and rubbish. The entrance to it is in the little lane there.

On coming down I wished to see the underground part of this double church. In the eastern wall of the court a door leads eastwards into another, but smaller, court (*see* Plans I and II, A), and there a flight of steps leads northward into a number of old vaultings, dark and disagreeable, vaulted chambers in which nothing is kept, but the water of the cisterns is used. These chambers existed long before the church was built, and were built without its being intended to erect a church on them. When the church was designed, the old strong tunnel-like vault was selected, and the piers B B put in to make the foundations. This state of things accounts for the curious shape of the church. Southwards the vaults are filled with earth, so that I could not go through, but only take measurements with a long rod. By another flight of steps, more to the south, we were able to go down again, and came into an open court, with two cistern mouths, and to the west and east strong arches, forming large halls or chambers. These parts are very nicely built, of finely dressed stones, and seemed to me to be Byzantine. The vaults farther south are full of earth. Over these parts are rooms, inhabited by Mohammedans, and we had to go back the whole way we had come into the street or end of the lane. Knocking there at the southern door, the people, who are Latins, showed us also that southern part (*see* Plans I and II). Passing some vaults and passages of no interest, we came through a door into an open court with a large tree and some shrubs in it. On its northern side there is a kind of cloister or vestibule, exceedingly nicely built, with various coloured stones. On its floor the woman, removing the dust, showed us the print of a left human foot, not natural, as it seemed to me, but chiselled in a large slab or flag-stone—she said it was a "footprint of our Lord!" (Plan II.) Then we went up a flight of steps, which are also very nicely made, and came upon a large terrace, which apparently had been once a large *room* (Plan I), as parts of three windows in the southern wall can still be seen. This wall projects about

10 inches, resting on nicely shaped corbel stones, which are connected one with the other by small decorated arches. The jambs of the windows and the door on the top of the stairs are rather narrow, and the whole looks elegant and nice.

If what I have described was once a convent, as people say, it was not built all at one time, but was enlarged at various periods. The part last described seems to fall in the best period of the Saracens. I think at that time the building extended southwards to the street "Tarik bab Sitte Maryam," opposite the present barracks, where there were then very fine buildings, of which the "Scala Santa" is said to be a relic.

To the question what this house and "Deir el 'Adas" may have been in ancient times, we may say that the name "Convent of the Lentils," *i.e.*, of the lentil eaters, throws no sufficient light, indicating only that there was here in the Christian time a convent whose monks were lentil eaters. But looking into Felix Fabri's wanderings, we come to the conclusion that in the Middle Ages this place was considered to be the house of the Pharisee who desired that Jesus should eat with him (Luke vii, 36), for Fabri, when he had visited the house of Pilate (the present barracks), went further along a side street up the hill to the "house of Herod," where Jesus was mocked and scoffed at by Herod and his servants—a house north of the Sisters of Zion—and getting no admittance, "went down again to the former street, wherein they stopped before the door of a house. In this house it is said that the Pharisee dwelt who desired that Jesus should eat with him . . . . We prostrated ourselves before the door of this house and received indulgences . . . . Rising from our prayer at the aforesaid house, we hurried forward on our way and came to another large house . . . . which house adjoins the courtyard of the Temple of the Lord. This house is said to have been the School of the Blessed Virgin wherein she learned her letters."[1] This is apparently the building east of the present barracks there. He goes on to say:—"Going a little further on from thence, we came to a place where on the right hand was a vaulted passage. This passage was whitewashed, and in it hung lighted lamps. We stood outside this passage and looked through it into the Temple courtyard, and saw, too, the Temple itself, which is called Solomon's Temple."[2] This is apparently the present Bab el 'Atm, for through it one can see the Dome of the Rock (*i.e.*, Solomon's Temple); it is also dark, requiring often lamps to be hung up. From here they went (eastwards) to the Church of St. Anne. Thus we see that a little west of Bab el 'Atm, the School of the Virgin was, in Fabri's time, regarded as having been where the schools of the Saracens then were, and a little more west, but on the other side of the street, the house of the Pharisee in which the Christians made the footprint which I have mentioned. Dr. Tobler ("Topography," I, p. 445) speaks of two foot-like impressions there, which were shown to him in front of the door to the church (or mosque). These were not shown to me.

[1] "Felix Fabri," vol. i, part 2, pp. 451-454, Palestine Pilgrims' Text Society, London, 1892. [2] *Ibid.*

Higher up the road, Sikkit Deir el 'Adas, and already near Bab es Zahiré (or Herod's Gate), is the "Mamuniyeh," the former Convent of Maria Magdalina, where generally the scene of Luke vii, 37–50, is located, though some place it at Bethany. This is not the place to bring all the discrepancy right, I wish simply to state that in Fabri's time (1484) the Pharisee's house was apparently considered to be the Deir el 'Adas.

II. *The Quarter Bab Hytta, Jerusalem.*—Recently I visited this quarter, and found it greatly changed and improved. It is the north-east part of the present Holy City, and when I came to Jerusalem, in 1846, was in a very lonely condition, inhabited by a few Mohammedans, with small insignificant houses, and between them many empty and waste places. Only in the chief street, that of Bab Hytta, were a few shops. The Church of St. Anne and its compound were in ruins, as also were the "Mamuniyeh," or Maria Magdalina Church and Convent, the latter site being used by a Moslem family as a brick manufactory. All these have undergone great changes. The "Mamuniyeh Ruins" have been entirely pulled down and a grand new building erected on the spot for a school, the rest being made into a nice garden. This new school building is not only large and very high but also of a very nice shape, so the quarter has here quite a new and much better aspect than before. And so it is with St. Anne; not only has the church been restored, but round about large new buildings have been erected for the Algerian Brethren as a kind of convent, and with a large school, which is frequented even by many Moslems. There are besides many new houses built by Moslems, some covered with tile roofs, in the main street, where many shops have been made, and the whole quarter has now a large population, some being Jews. The waste and empty places have had their rubbish removed, been surrounded with walls, and had new houses built upon them. The streets are levelled and paved, and drainage made as in the other streets of the city, and the whole quarter is kept clean. The two gates leading from outside the city to this quarter have, as I formerly reported, been improved, and a watch of soldiers placed at them. I was told that an underground city had been found, so I went there and found the following:—

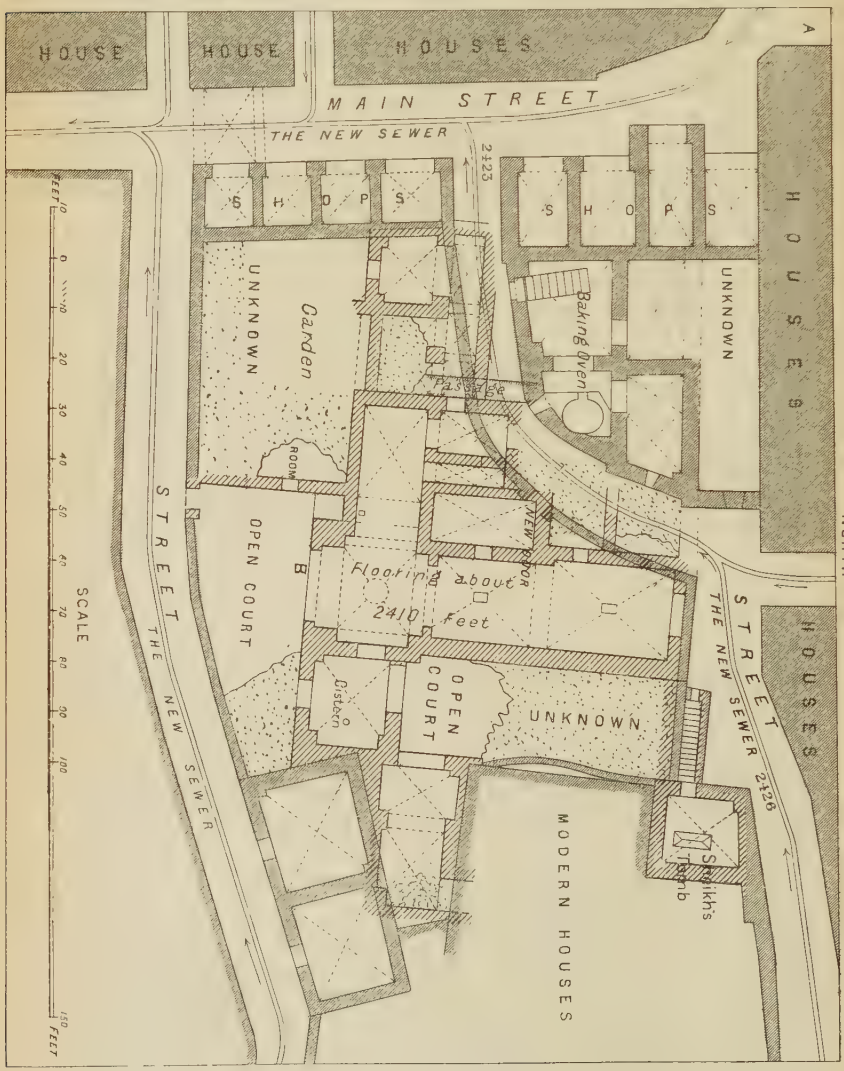
New Discoveries in Harat Bab Hytta.—Entering by Herod's gate, I was brought to the new school, where I had to wait till the key was fetched, then I was led down the hill in the Harat es Saadieh (*see* Plan II) to the main street of this eastern quarter. At A, hitherto a ruined place with some trees, I saw new building going on; further south are new large buildings, and the row of shops begins here, but all on the eastern side of the street; on the western are only a few, but houses instead. I was brought to the place B, hitherto an empty field. Not long ago a hole broke in, and on examination it was found that there are arches and vaults below. So the proprietor began to remove the rubbish (*see* Plan), first making a door in the dry, rough, and low wall along the southern street. Here a kind of open court was found, and

towards the north a very nice (Byzantine) arch appeared, leading to a high hall 72 feet long, and on an average 16 feet wide, having at the top of the vaulted roof some sky-holes. The round one shown on the plan is the same where the hole in the ground had broken in, indicating the underground buildings. In the first, or southern part of this hall, there were openings on both sides. Eastward a room was cleared, having the mouth of a cistern on its floor. North of this an open court was found, and eastwards vaults were cleared until they came to the mire of the house above, the vault having been used as a sink. Returning to the hall it is remarkable that there are not any doors or other openings in its eastern wall, but in its western wall there are such. In the northern part are two doors leading into rooms, the extent of which towards the west I cannot tell, as there is still earth in them. The third, or more southern room, is fully cleared, and is 20 feet long by 10 feet wide. More south there is no door, but a tunnel-like opening, 12 feet wide, going westwards for 28 feet. In the northern wall of this tunnel there is first a passage, $3\frac{1}{2}$ feet wide, going northward, having most probably stairs going downwards, but not yet uncovered, as the rubbish is not removed to the flooring of the passage. More to the west is a wide opening leading to a kind of ante-room, which has doors or openings on all four sides—one by which we came in, one in the eastward to the passage, one northwards to a room (or court ?), still full of earth, and westward to a passage 6 feet wide, 34 feet long. South of this passage are also rooms not yet completely cleared. The north wall has no openings except at its eastern end, a low arch through which one can look into a tunnel-like passage of a lower story, only partly cleared out.

The space between these apartments and the southern street is still unknown, being covered with earth. In the east wall is a door leading to a room still full of earth. North-east of the whole, in the northern street, there is a narrow building containing a flight of stairs leading (they told me) very deep down into a room with a Sheikh's tomb, or Wely, over which are modern houses.

I have also shown the new drains or sewers on the Plan, the bottom of which is 5 to 6 feet under the pavement. In a house on the north side of the northern street is a baking oven ; the man carrying on the business of baking came out and told me that since the sewer has been made very often water penetrates his oven, and took me in to see the state of things. I had to go down a flight of steps, and found the oven in a small side room with fire in it, and on its east side a little water coming in, so it seems the flooring of the sewer is situated somewhat higher than the flooring of the oven. As I had no instruments for levelling with me I could not fully make out how the flooring of the oven room is situated in reference to those of the described underground story. It is, of course, a good deal higher than the latter, but how much I cannot say. It may be that there the vaults of the underground story were partly broken in when the bakehouse was built ; but it also may be that the underground story extends further north and west under the flooring of the bakehouse, a

question which can be decided when the clearing of earth from the underground story is finished. The man told me he could not go on with the

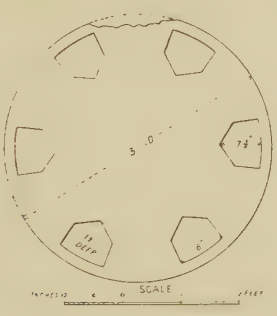


Plan of New Discoveries and Buildings in Bab Hytta Quarter.

work as he had no more money for it, and he was obliged to wait till circumstances enabled him to go on. He also told me that the title deed

which he possesses shows that the property has belonged to his family for 763 years, and that it was a waste place when they got it! These remains are not Crusading, but some parts certainly Byzantine, whilst some seem to be even older. Very likely there is still another story below, as the tunnel-like passage shows, and that the hall has sky-holes proves in some measure that this was at that time the upper part of the building, also that the Sheikh's tomb is so deep down suggests this view.

III. *A Remarkable Marble Slab.*—Having been told that there is at Mr. Bergheim's steam-mill an "interesting marble stone" and that it was difficult to say to what it had belonged, I went there and found it lying on the ground. People could not tell me very exactly the spot where it was found when the buildings for the steam-mill were put up. They are of galvanised iron sheeting, and have not required deep foundations, so the stone was found not deep under the surface, and somewhere about



Plan of Marble Slab.

835 feet north of the Damascus Gate, a little west of the road going to the "Tombs of the Kings." I measured the stone carefully in all its details, and prepared the accompanying drawings, by which it will be seen that it is a flat circular stone 3 feet 10 inches in diameter, and 7 inches thick. It has on its upper and smooth surface six depressions chiselled of an unequal pentagonal form, on an average 8 inches wide and 1½ inches deep, apparently as receptacles for the heads or bases of pillars, and one thinks at first it may have been a table top supported on six legs. But as these receptacles are on the smooth surface, which, therefore, was exposed to view, and the other surface is rather rough, it was apparently the bottom piece, the pillars standing on it, supporting something else on the top, which I think was a basin and hence that the whole was a font. Similar ones are still existing in Norman churches, for instance in Bodmin Church, Cornwall, built about the year A.D. 1200, in St. Michael's Church, Southampton, A.D. 1150, which have four pillars, and in Dorchester Church, Oxfordshire, from the same period, which latter has six pillars. Fonts were in ancient time regarded with peculiar reverence, and are frequently

preserved, whatever changes the churches may have undergone. And it is not impossible that from St. Stephen's Church, north of Jerusalem, built in the fifth century, and rebuilt in the eleventh century by the Crusaders, a piece of the font, probably of the later church, is still preserved. At the periphery a piece is broken away, but the rest is very well preserved. The periphery is ornamented with three astragal mouldings, indicating (according to my idea) that this round plate rested on a square or six-sided socket.

IV. *On Springs, &c.*—In one of my former reports I stated that the spring of Siloah is very nearly dry. The other day, when I was down there, the fellahîn told me that the water must have found *another way to run out*, and very likely goes to an underground channel situated deeper than the well-known one, as a spring in the neighbourhood of Mar Saba, formerly a very small one, has now become copious. Whether this is true or not I cannot tell, possibly it is. Also the new found pool of "Bethesda," near St. Anne's Church, which for many years had always a quantity of water in it, is now completely dry. The spring 'Ain el Haud, on the Jericho road, beyond Bethany, has also become very small, so that the passers-by use up all the water, and the women of the village Abu Dis cannot obtain their supply there.

V. *A large Stone Basin.*—When examining the *font* stone, described above, and considering what it might have been, it came into my mind that I had last year seen on the eastern slope of Mount Olivet another similar stone, which was not a font, but a large stone basin. Not quite a mile east of the Church of the Ascension on the summit of Mount Olivet, is the site of an ancient village or town, on a low ridge between two valleys, called by the natives "Khŭrbet el Kashe," *i.e.*, the Ruins of the el Kashe family. I visited the place first nearly a quarter of a century ago, and found these ruins, and much pottery and many pieces of red polished stones and of once polished marble from pavements and from pillars, and many other architectural remains, as capitals, &c. There were also a cave, two pools, and two cisterns, one at the southern end of the ruins and one at their northern end; so that I got the impression that the place had been of some importance. But when coming there again last year, I found it so changed that one can now hardly recognise that it was once a town or large establishment. The cistern, the pools, and also the cave are still there, but all the pieces of marble, pottery, &c., have been removed, and not one piece can now be found there: the people have gathered and used them up; the pottery for *hamra*, the marbles for the new *malteeny*—a Jerusalem cement invented by the late Armenian Patriarch, and used to make roofs watertight—and the hewn stones for building new houses at Et Tûr. But one thing is still there, at, or near, the mouth of the northern cistern, namely, a large fragment of what was once a very large stone basin, about 7½ feet in diameter, and a little more than 1 foot deep, of a reddish stone, very smooth, and

polished. One can hardly judge for what purpose it was used. For bathing it was not convenient, for a drinking trough for animals it was too costly; so I think it may have stood in the garden of a nobleman, to keep rare fish in. On account of its weight it could not be removed by the fellahîn, and to break it they feared for the evil which comes always when such things are destroyed.

The late Russian Archimandrite thought the place had been a Christian monastery, and made some endeavours to buy it, in order to restore it again, as a habitation for monks and priests. To me it seems that this place was once in the area of the Jewish Bethphage, as a road coming up from Jericho passes near it, going towards Jerusalem, just over the summit of Mount Olivet; perhaps the road which David used when fleeing before his son Absalom. If one coming up this road wished to go to Bethany he had to pass very near this village or town; and when Jesus went from Bethany towards Jerusalem, coming up from Bethany this place was lying over against that from which the disciples could fetch the ass and bring it to the road, where in Christian times the Chapel of Bethphage was put.

ON THE LATIN INSCRIPTION FOUND BY DR. BLISS BEHIND THE GATE OF NEBY DAÛD.

I.—By the Rev. Canon DALTON, C.M.G.

1. THIS inscription was probably cut not earlier than the spring of 115 A.D., nor later than the summer of 117 A.D. It runs:—

"IOVI O[PTVMO] M[AXIMO] SARAPIDI
PRO SALVTE ET VICTORIA
IMP[ERATORIS] NERVAE TRAIANI CAESARIS
OPTVMI AVG[VSTI] GERMANICI DACICI
PARTHICI ET POPVLI ROMANI
VEXILL[ARIUS] LEG[IONIS] III CYR[ENAICAE] FECIT."

(*Quarterly Statement*, 1895, p. 25 and p. 130.) The size of the stone has since been given by Dr. Bliss. He states that its length is 2 feet 9 inches, and its height 1 foot $6\frac{3}{4}$ inches. The letters of the inscription are arranged in six lines. The letters in the first line are $3\frac{1}{8}$ inches long, those in the second line $2\frac{1}{2}$ inches, those in the third line $2\frac{1}{16}$ inches, those in the fourth line $2\frac{5}{8}$ inches, those in the fifth line $2\frac{1}{2}$ inches, the remains of those in the sixth line (the lower portion of these letters having been broken off) measure $1\frac{1}{2}$ inches. The exact arrangement of the letters is shown in the photograph of the stone given in the *Quarterly Statement* for 1895, p. 130.

In October, 97 A.D., Trajan was adopted by the Emperor Nerva, who gave him the rank of *Cæsar*, and the names of *Nerva* and *Germanicus*

(the latter in recognition of the great success he had achieved in command of the legions on the Rhine frontier), and shortly afterwards the title of *Imperator*. His title, then, would be Imperator Cæsar Nerva Traianus Augustus Germanicus. The Emperor Nerva died January 27th, 98 A.D., after a reign of sixteen months, and was succeeded by Trajan, then at Cologne. The new Emperor went, even before he made his official entrance into the capital of the Empire, from the Rhine to the Danube, where he stayed the winter 98–99 A.D. ; he went not to attack the Dacians at once, but to prepare for the war. In March, 101 A.D., Trajan left Rome for his campaign in Wallachia and Moldavia against the long-formidable Daci, against whom he now led the 1st, 2nd, 4th, 5th, 7th, 11th, and 13th legions. After his victory over their king, towards the close of that year, he assumed the title *Dacicus*, and entered Rome in triumph in 103 A.D. In 105 A.D. he was engaged in a second campaign against the Daci, and, the Danube having been bridged at Severin, penetrated into the heart of Transylvania. He entered Rome in triumph a second time in 106 A.D. The colonists of Latin race and speech he then settled in the conquered lands were the direct ancestors of the present Roumanians, who thus claim to be Romans by blood and tongue. The sculptures on his column at Rome commemorate these victories over the Daci, though the column itself was not dedicated till 113 A.D.[1] During these six years (106 to 113 A.D.) he would appear to have remained at Rome superintending the erection of his many great buildings of public interest and utility, and devoting himself to the civil administration of the Empire. "The monuments of Roman jurisprudence contain many examples of Trajan's legislation. The *Replies* he addressed to the unceasing questions of the prefects and magistrates, were incorporated in the laws of the Empire, and retained their force for many generations. He qualified himself for the task of propounding or applying legal principles, by assiduous labour in the administration of existing law. Trajan exchanged the toils of war for the labours of the forum. Like the great statesmen of the Republic, he returned from the camp to the city to take his seat daily at the tribunals, with the ablest judges for his assessors ; he heard appeals from the highest courts throughout his dominions, and the final sentence he pronounced assumed the validity of a legal enactment. The clemency of Trajan was as conspicuous as his love of justice, and to him is ascribed the noble sentiment that it is better that the guilty should escape than the innocent suffer." To this period belongs his famous correspondence with Pliny the younger regarding the Christians in Bithynia. S. Ignatius, of Antioch, was martyred in the public games at Rome, held probably October 17th (the anniversary date of Trajan's adoption by Nerva), some year between 110 A.D. and 118 A.D.

In the autumn of 113 A.D. Trajan's presence was required on the eastern Asiatic frontier of the Empire, as it had been formerly on the northern

[1] These campaigns as shown in detail on that "chiselled picture book" are described at length in Mommsen's "Provinces of the Roman Empire," vol. i, pp. 221–227, English ed. 1886.

European frontier. He accordingly then left Rome for his Parthian expedition: he passed through Athens and Asia Minor and wintered at Antioch. In 114 A.D. he subdued greater and lesser Armenia, and consolidated the Roman power between the Euxine and the Caspian, between the Euphrates and the Caucasus. The Senate then conferred formally upon him the title of *Optumus*. Trajan is said to have been more proud of it than of any other, inasmuch as he regarded it as a compliment to his character rather than to his exploits. No other emperor was ever honoured with this appellation. As early as 103 A.D. the title Optumus appears upon his coins and medals; but it is from 114 A.D. that it becomes no longer an epithet but an inseparable part of his name, and as such *then precedes even Augustus*. Very shortly afterwards he was designated *Parthicus*. He wintered again at Antioch, and during his stay there the great earthquake occurred in January, from which he narrowly escaped with his life. In the spring of 115 A.D. he again left the Syrian capital for the East, and after bridging the Tigris entered Babylon and Ctesiphon, the Parthian capital. At the latter place he wintered, and the title *Parthicus* was confirmed to him, by his soldiers, at the conclusion of this expedition, the most brilliant in the rapidity and extent of its conquests of any exploit of the Roman arms. Assyria and the modern Kurdistan, as well as the sites of Alexander's greatest victories, Arbela and Gaugamela, had been brought beneath the sway of the City of the Seven Hills. In 116 A.D. he sailed down the Tigris, and launched his bark upon the Persian Gulf, when, seeing a vessel sailing to India, he regretted he was no longer young enough to go thither himself, and returned to Babylon. Meanwhile the so-recently subjugated nations of the East were ominously agitated, and the Jewish insurrection so long impending and fomented by industrious intrigues, wherever the Dispersion were in any force, burst forth against the Roman arms in Palestine and in Parthia, Mesopotamia, the North African coast, in parts of Libya about Cyrene, Egypt, and Cyprus. In 117 A.D. this general rebellion of the Jews throughout the East was crushed by Lusius Quietus, originally a Moorish chieftain who had volunteered into the Roman service at the head of a band of mercenaries, but who, like the Moor Othello afterwards at Venice, had now become the greatest of his adopted country's captains. Trajan himself, however, fell ill; he had not hesitated to keep the field through all the summer heat, and leaving the army in the East under the charge of Hadrian, set off homewards to Italy. He only got as far as Selinus in Cilicia, where, worn out after a very active and hardy life of 65 years, he died of dropsy and paralysis, August 11th, 117 A.D., after an eventful reign of 19 years. The first of the Cæsars who had met his death at a distance from Rome and Italy: the first whose life had been cut short in the actual service of his country. His ashes were conveyed to Rome in a golden urn, and deposited at the foot of his column: the first Roman who received the honour of being allowed to repose after death within the walls of the city. Mommsen says, "Even after death the honour of a triumph was accorded to him,

and hence he is the only one of the deified Roman Emperors who even as god still bears the title of Victory."

From an examination, then, of the several imperial titles we see that the limits of time within which it is possible that this inscription could have been cut, are very clearly defined. We may regard it either as a votive thankoffering "for the welfare and victory of Trajan and the Roman people," after that had been completely achieved in the summer of 117 A.D. This is its latest possible date. Or it is just possible we may, perhaps, be allowed to regard it as an anxious prayer put up for the success of the Eastern campaign, while that was yet in progress, and before the Jewish insurrection had been finally quelled. In that case the title Parthicus will give us our earliest limit. News of this designation, applied to the Emperor in Rome, could not well have reached the East before 115 A.D.[1] This is the earliest date it could have been cut. But our vexillary is more likely to have awaited the soldiers' formal ratification of the title to their general, before using it in an inscription; and the probabilities would appear to be that the stone was engraved as a votive thankoffering in the early months of 117 A.D.

2. So far as to the date of the inscription. Next, as to the man commemorated. In view of what is to follow, it will be well for us to have as vivid a presentment of him before our minds as possible. The slight sketch of his career necessitated above, when merely tracing the dates of the various titles bestowed upon him by the Senate and people of Rome, has been enough perhaps to show him to us as a man of singular sense and vigour, from early youth trained in the camp. Trajanus, his father, had commanded the 10th legion at the bloody storming of Joppa, under Titus, in the Jewish war. Trajan himself was a strict disciplinarian, and this, united with his genial demeanour, had gained him the love and confidence of the legions alike in Spain, and in Germany, in southern Russia, and in eastern Armenia. But his courage and self-denial, his valour and generosity, his minute vigilance and unwearied application made him an able ruler, and as great a statesman as he was a captain. He was a wise, liberal, just, prudent, beneficent administrator; his virtue of moderation, his personal modesty, and anxiety for his subjects' well-being were the cause of the amazing popularity he acquired in the discharge of his public duties. The construction of canals and roads, theatres, and aqueducts undertaken on so vast a scale under his auspices throughout the Empire, witness to this day how his administration combined genuine magnificence with economy. "Trajan enjoyed also the distinction, dear in Roman eyes, of a fine

[1] Mommsen, "Provinces of the Roman Empire," vol. ii, p. 66, note [2], says the title *Parthicus* was conferred between April and August, 116 A.D. In his description of Trajan's two Parthian campaigns (pp. 65–71), he dates the events of these campaigns in each case one year later than the dates given above; which are taken from Merivale and from Bishop Lightfoot. The latter discusses very fully the whole question of the Chronology of Trajan's reign, "Apostolic Fathers, S. Ignatius," vol. ii, pp. 391–418, ed. 1889.

figure and noble countenance. In stature he exceeded the common height, and on public occasions, when he loved to walk bareheaded in the midst of the senators, his grey hairs gleamed conspicuously above the crowd. His features, as we trace them unmistakeably on his innumerable busts and medals, were regular, and his face was the last of the imperial series that retained the true Roman type, not in the aquiline nose only, but in the broad and low forehead, the angular chin, the firm compressed lips, and generally in the stern compactness of its structure. The thick and straight-cut hair, smoothed over the brow without a curl or a parting, marks the simplicity of the man's character in a voluptuous age which delighted in the culture of flowing or frizzled locks. But the most interesting characteristic of the figure I have so vividly before me, is the look of painful thought which seems to indicate a constant sense of overwhelming responsibilities, honourably felt and bravely borne, yet, notwithstanding much assumed cheerfulness and self-abandonment, ever irritating the nerves, and weighing upon the conscience." (Dean Merivale, "History of the Romans under the Empire," chap. lxiii, vol. viii, p. 67, edit. 1865.)

3. Next, as to the deity invoked in the inscription—Jupiter Optumus Maximus Sarapis. The nearest equivalent of this in modern phraseology would perhaps be "the Supreme Being, the beneficent lord of life and death."

By the old Egyptians, Osar-Apis was the name conferred on the dead Apis after he had become "beatified," or re-absorbed after incarnation into Osiris. Memphis, south of the present Cairo, was the chief seat of this cult, as Heliopolis was of that of Mnevis, Thebes of that of Amen, Denderah of that of Isis, Thinis and Philae of that of Osiris, and so on. Each nome and principal city of Egypt was specially devoted to its own favourite presiding divinity, whose attributes were associated (as some think) in each case with what had been the totem animal of the original tribe there settled. These deities were by no means antagonistic or contradictory to one another; several were professedly the same divinity under different names; many were related as members of a family. They were all regarded, by some at least of the intelligent, from very early ages as so many manifestations of the One eternal principle of life.

Accordingly, after Alexandria had been founded, the Ptolemies, at one and the same time Egyptian Pharaohs and yet Greek Princes, felt the propriety and the need of having a local and presiding deity for that great city. Its population was a congeries gathered not only from Greece and its colonies, but from all the nations and tribes of the Mediterranean and the East. What was wanted was such a tutelary deity as would appeal to the devotion of them all alike, indigenous or foreigner, trader or philosopher, mariner or landsman, rich or poor, sick or whole, learned or unlearned. Tacitus narrates the whole affair of the discovery, and introduction, from over the sea of the great tutelary deity of Alexandria, at some length in his "Histories," book iv, chapters 81 to 84, which is in itself a proof of the influence of this particular cult in his day. The

passage may perhaps be most conveniently read in Merivale's "History of the Romans," chap. lvii, vol. vii, p. 150, or in Church and Broadribb's translation of the "Histories," or in Blackwood's "Ancient Classics for English Readers," Tacitus, chap. viii, pp. 146 to 151. The tale is told by him *à propos* of Vespasian's stay at Alexandria, when he "was already assuming in the eyes of the Romans something of the Divine character, and the Flavian race was beginning to supplant the Julian in their imagination." From the East the Saviour of the world was to appear: who else was he if not the elected of the Eastern legions? At Alexandria, therefore, his followers were eager to invest him with the attributes of deity, and some, at any rate, seem to have been ready to hail him as an incarnation or impersonation of their popular god Sarapis. Then we get the tale of the most successful Invention of this divinity by Ptolemy. It was from Sinope, in Pontus on the Euxine, the dark, mysterious land where Medea had erst wrought her alien spells, whence Jason had fetched the Golden Fleece, but on whose strange Cimmerian borders Greek and Oriental had long ago planted their mercantile colonies, that the new revelation came. Tacitus says that the original name of the newcomer from Sinope had not been recorded. The name probably under which he was revered at Sinope and reported of to Ptolemy by travellers and traders, and dreamed of by him afterwards, had a very similar sound to that of Osar-Apis which his ears were familiar with in Egypt; and his functions, too, were easy to reconcile with Egyptian ideas; he was "lord of souls and judge of the dead, and had a consort queen." On hearing his native name the Egyptian priests, persuaded that the mythology of the whole world was but a plagiarism of their own, identified him at once with their own Osar-Apis; and the Greeks as deftly and neatly turned the new-found Osar-Apis into the more euphonious ὁ Σάραπις, and saluted him and Isis as Pluto and Persephone. Henceforth Sarapis, "lord of the underworld," is regularly sculptured as Plutus, "lord of riches," as well as god of death. Speedily did Sarapis become the sole lord of his new home. A similar result ensued to that which had often before been witnessed in Egyptian history. As the seat of a god's worship became important so did the deity its patron; the supremacy of one city over other cities meant that its tutelary deity was supreme over other gods. Alexandria became the chief city, the mercantile and official capital of Egypt; then Sarapis became the chief, too, of all the gods of the land, and there his shrines were honoured for nigh one thousand years. For the worship of Sarapis was the last of the heathen forms to fall before the power of Christianity—a thing not to be wondered at in the case of a divinity whose original idea involved the two strongest principles that actuate the conduct of mankind—the love of riches and the fear of death. For the god of the subterranean world was necessarily lord also of its treasures. His devotees had promise not only of the life that now is but also of that which is to come. His worship would appeal alike to faith and hope; to the highest and to the lowest instincts; to the most selfishly superstitious, and to the spiritually-minded with their

highest ideals of possible and future excellence. The late Mr. C. W. King, in the "Gnostics and their Remains," 2nd edit., 1887, p. xvii and pp. 158 to 212, gives much curious information about Sarapis. He tells us that "Speculations as to his true nature employed the ingenuity of the later philosophers at Alexandria, and how in time every conflicting religion strove to claim him as the grand representative of their own doctrine. Macrobius, he says, had preserved one of the most ingenious of these interpretations, i, 20: 'The city of Alexandria pays an almost frantic worship to Sarapis and Isis, nevertheless they show that all this veneration is merely offered to the sun under that name'; and after giving the reasons, proceeds: 'From all this it is evident that the nature of Sarapis and the sun is one and indivisible; and again Isis is universally worshipped as the type of Earth or Nature in subjection to the sun.' The philosopher saw in Sarapis nothing more than the Anima Mundi, the spirit of whom Nature universal is the body, so that by an easy transition Sarapis came to be worshipped as the embodiment of the one supreme, whose representative on earth was Christ." The followers of Mithras and Sarapis had a gnosis of their own communicated in their mysteries to the initiated few. The Emperor Hadrian, a most diligent enquirer into things above man's nature, got himself initiated into one mystery after another. All these were of Asiatic origin, and very popular at this time with all persons making any pretension to the title of philosophers. Hadrian writes in a letter from Alexandria to his brother-in-law Servianus in 131 A.D., preserved by the historian Vopiscus in his life of the tyrant Saturninus: "I am now become fully acquainted with that Egypt which you extol so highly. I have found the people vain, fickle, and shifting with every breath of opinion. Those who worship Sarapis are, in fact, Christians; even those who style themselves the bishops of Christ are actually devoted to Sarapis. There is no chief of a Jewish synagogue, no Samaritan, no Christian bishop, who is not an astrologer, a fortune-teller, a conjuror. The very patriarch of Tiberias" (the head of the Jewish religion after the destruction of Jerusalem), "when he comes to Egypt, is compelled by one party to adore Sarapis, by the others to worship Christ. There is but One God for them all, Him do the Jews, Him do the Gentiles, all alike worship." "Consequently," says Mr. King, "those initiated into the true secrets of the old religion must have recognised the fact that their deity, whether the Sun, or the soul of the Universe, was nothing but a type of the one, the Saviour recently revealed to them. Or else it would appear that the new converts, in order to escape persecution, enjoyed their own faith under the covert of the national and local worship, which was susceptible of a spiritual interpretation quite cognate to their own ideas, and indeed enshrouding the same." This may have been true of some few of them.

But Dean Milman ("History of Christianity," vol. ii, p. 108, edit. 1863) quotes this letter of Hadrian's, and says regarding the latter clause in it,—"They have but one God, him do the Christians, Jews, and Gentiles worship alike,"—"Casaubon understood it seriously; but it is evidently

malicious satire. The common god is Gain." The Emperor, in fact, is fiercely sarcastic, not mildly mixing a jumble of creeds together. He writes, not calmly as a philosopher, but at a white heat of fury and indignation His beloved Antinous had just perished mysteriously in the Nile ; and the people of Alexandria were jeering at him in his sorrow with unfeeling ribaldry, and what he says is that there was none of that rabble Jew, Christian, or Gentile who cared for aught but lucre ; filthy lucre was the one common god of each and all. Nevertheless, Milman adds that it was no doubt true that "The tone of the higher, the fashionable society in Alexandria was to affect, either on some gnostic or philosophic theory, that all these religions differed only in form, but were essentially the same ; that all adored one deity, all one Logos or Demiurge, under different names ; all employed the same arts to impose upon the vulgar, and all were equally despicable to the real philosopher."

Whether our vexillary had been initiated or not we do not know. He had at any rate lately been in Egypt, and by linking the name of Sarapis here with that of Jupiter Optumus Maximus would appear to regard him as the great Pantheistic deity, who absorbed the attributes and functions of all the more ancient Gods of Egypt and of Rome, rather than, as in his more limited capacity, the Pluto of their mythology, the lord of the realm of departed spirits : he here addresses himself to the one Supreme Being, Father of Gods and men, the beneficent, almighty lord of life and death.

4. So we pass to the consideration of the vexillary of the 3rd legion, "Cyrenaica," the man who caused this votive tablet to be raised. The vexillaries were the oldest class of veterans—"a *vexillum* was a temporary and extraordinary standard ; a *signum*, the fixed and ordinary one. Those veterans who had served out their time of 20 years and were not provided for, though "exauctoritati," yet remained under a vexillum. They were a select troop used only in battle, and were free from all other duties. But *any* troop separated from the main body of the legion under a special commander had its own vexillum, and its members were "vexillarii." They were used for making roads, bridges, fortifications, and as outposts through the provinces. The numbers of a vexillatio, though often a thousand, varied ; hence the different rank of the commander over them." (Smith's "Dictionary of Greek and Roman Antiquities," vol. i, p. 792, edition 1890.)

The 3rd legion was in Illyria in 69 A.D., and was one of the earliest in Europe to declare and fight for Vespasian, who had been saluted Imperator in Syria on the 17th July of that year. They took part in the defeat of the Vitellians at Bedriacum under Antonius Priscus, and afterwards marched on to Rome, where Vitellius was slain, 21st December the same year. They were next quartered in Campania, and subsequently received orders to embark for Alexandria : from whence a detachment "vexillatio" of this legion, together with another from the 22nd, was despatched to help Titus—under whom were the 10th, 5th, 15th, and

12th legions—in the siege of Jerusalem. The city was taken August 10th, A.D. 70.

Hence it is just possible that this vexillary, if he had joined the legion as a recruit in Italy when it was ordered to Egypt, had both actually had the fortune to witness the Sarapis incident of Vespasian's at Alexandria as narrated by Tacitus (which occurred there in the spring of 70 A.D.), and had afterwards taken part in the overthrow of Jerusalem under Titus in the August of the same year. If so, he would now be between 60 and 70 years of age when he caused this votive tablet to be cut, in 116–7 A.D., say 65, the same age as his imperial master Trajan himself at this very time. Be that as it may, as a vexillary or veteran, he certainly could not have failed to have heard much in his time of both events from his regimental comrades, some of whom had been present on both occasions.

He was now a vexillary at Jerusalem in 116–7 A.D. Time-expired men of the other legions who had taken part in the great siege were, we know, colonised in Palestine, and had grants of land in various parts of the country. After the fall of the city, the province of Judæa fell under the Emperor's administration, and its tolls and tributes accrued to his private exchequer, and under his superintendence measures were taken for re-peopling the territory with fresh colonists. It is possible that our friend was a vexillarius, who was thus provided for, and may have had such a grant on Mount Sion, where the tablet was found.[1] Or on the other hand, he and other veterans of his vexillatio may have been engaged in fortification and other works there at this time about the old citadel of Zion and city of David, which we know was repaired for a Roman garrison, while the rest of the city was left in ruins. Or again, he may have only been passing through the country with his detachment to Petra (in Arabia), where the legion was shortly afterwards quartered, and this tablet, erected on a favourable site, may merely record his pious wish as a votive thank-offering for the complete success of the enterprise in which he and his were then engaged—the welfare and victory of his imperial master and the Roman people in the overthrow of all hostile powers whatsoever. "Parthians, and Medes, and Elamites, and the dwellers in Mesopotamia, and in Judæa, in Pontus and Asia, in Egypt, and in the parts of Libya about Cyrene, Jews and Proselytes, Cretes and Arabians."

As our own regiments bear on their colours the names of the places

[1] It should be remembered that Roman tiles and bricks stamped with the cognisance of the 10th Legion Fretensis have also been found not only by Dr. Bliss recently, but also by former explorers for the Palestine Exploration Fund, on the eastern slopes of Sion (*e.g.*, *Quarterly Statement*, 1885, p. 133, and 1891, p. 20), as well as the inscription of the centurion Julius Sabinus of the same 10th Legion (*Quarterly Statement*, 1871, p. 103); and Dr. Bliss has found that wherever the soil of these southern slopes is disturbed for a few feet deep, tesselated pavements and remains of Roman houses apparently abound.

where they have achieved their most distinguished victories, so in a similar way were honorary titles granted to the Roman legions. The badge or label of the 3rd legion had been Augusta (*cp.* "King's Own"); it was now Cyrenaica.

The Jewish population of Cyrenaica outnumbered the natives, and during the war of Trajan with Parthia, when the Roman legions were probably withdrawn from the African provinces and a few feeble garrisons alone remained to maintain the peace, they were for a time triumphant in the uprising of 116 A.D., and perpetrated the most dreadful atrocities on the Greek inhabitants. "All Egypt, both Alexandria and the Thebais, with Cyrene, arose at once. In Egypt the Jews had at first some success; but the Greeks fell back on Alexandria, mastered the Jews within that city, and murdered the whole race. Maddened by this intelligence the Jews of Cyrene, headed by Luke and Andrew, swept over all lower Egypt, where they were joined by a host of their countrymen, and penetrated into the Thebais, and even further. Horrid tales are told, even by their own people, of the atrocities they committed. Some of their rulers they sawed asunder from head to foot, they flayed their bodies and clothed themselves with the skins, twisted the entrails and wore them as girdles, and anointed themselves with blood. We are even told they boasted of feasting in cannibal wise on the bodies of their enemies; 220,000 fell before their remorseless vengeance. Lupus, the Roman Governor at Alexandria, meanwhile, without sufficient troops, sat an inactive spectator of this desolation." (Milman, "Hist. of the Jews," book xviii, vol. ii, p. 420, edit. 1863.)

Marcius Turbo was sent quickly by sea with a considerable force of horse and foot to the coast of Cyrene. He marched against Andrew, and after much hard fighting, suppressed the insurrection there in that province. The 3rd legion won their decorative epithet, Cyrenaica, for the part they then took in these operations.

Luke attempted to force his way by the Isthmus of Suez, and some, at least, of his followers found their way to Palestine. The insurrection was still raging in Egypt when the Jews in Mesopotamia rose in arms. Their insurrection was soon suppressed by the vigour of Lusius Quietus, then considered the ablest soldier in the Roman army, and he was immediately appointed to the Government of Judæa, to provide against any further outbreak there. This detachment of the 3rd legion would be part of his garrison at Jerusalem for the time being.

I have preferred to take the abbreviated form Vexill. of the inscription as intended for Vexillarius; but doubtless others might consider it more likely to stand for Vexillatio, and regard the tablet as erected by the whole detachment. In that case the only difference will be that most, if not all, of the points made above respecting our Vexillary, would apply to several instead of only to one of the members of this band.

We saw from the imperial titles that the date of the inscription was probably not earlier than the spring of 115, nor later than the summer of 117 A.D. We seem now, from a consideration of the legion's title,

shut up between the very end of 116 A.D. and the beginning of 117 A.D.

It is just possible that the newly-conferred honorary distinction, "Cyrenaica," was the very cause of the vexillary's tablet. That is to say, if he happened to have been a vexillarius who had left the service, or if he was detached for special duty on Mount Sion, he would have heard at Jerusalem of the success of his former brother legionaries in Africa, of their hard, stern, indomitable fight against tremendous odds, and he hastes in gratitude to share the title since bestowed, and amid the very ruins of Jerusalem to pray the Supreme Being, he and his had adored together at Alexandria in former days, to crown the further labours of their arms in the same cause with victory and success: "So let all thine enemies perish, O Lord," whether in Babylonia, Egypt, or Judæa.

On the other hand, if he belonged to a vexillatio of veterans still in active service, then he may have seen with his own eyes, and wrought with his own hands, some of the dauntless deeds for which he now gives thanks. Lusius Quietus, the Moor, is the Governor of Jerusalem and Judæa, and the 3rd legion, "Cyrenaica," are only halting in the citadel, or on the slopes of Sion, as they pass forward on their march to Petra and "Arabia," where the legion was next quartered.

5. Before we take leave of the veteran "vexillary" offering up his prayer on Sion for his aged Emperor, to "the One Great God, the Judge of quick and dead," when both he and his master were standing, at the end of their several lives, on the near confines of the unseen world, we cannot but recall to mind that an additional pathos is imparted to the scene by the fact that our forefathers believed that in answer to the prayer of another aged man on behalf of the same Emperor, the veil that falls at death between the living and the dead had been uplifted: and that, as an instance that "the effectual fervent prayer of a righteous man availeth much," to Trajan alone, of all the countless myriads of heathendom, it had been vouchsafed to pass forth from Hell, through Purgatory, into Paradise. The story is discussed at length in Bishop Lightfoot's "Apostolic Fathers," ed. 1889, S. Ignatius, vol. i, pp. 3 to 8, and notes.

Gregory, Bishop of Rome, A.D. 587 to 604 A.D. (he who sent forth S. Augustine of Canterbury, the Apostle of the English, and who was in austerity and devotion himself a monk to the end of his days), is said to have been so moved by the representation on Trajan's column of an instance of his clemency and kindness of heart to a poor widow whose son had been slain, that "he betook himself to the tomb of S. Peter, where he wept and prayed earnestly. There, rapt in an ecstacy, he received a revelation to the effect that the soul of Trajan was released from torments in answer to his intercessions; but he was warned never again to presume to pray for those who had died without holy baptism. . . . . The noble charity which underlies this story may well exempt it from rigorous criticism. . . . . The legend seems to have had a strange fascination for the mediæval mind, both in the East and West. It

appears in a Greek Euchologion, as a notable example of the efficacy of importunate prayer. . . . . In the west its reception was still more cordial. . . . . S. Thomas of Aquinum discusses it as an anxious and perplexing problem of theology. . . . . But the legend received its crowning triumph when it found a home in Dante's poem, and 'the great victory' of Gregory over death and hell was handed down to all time enshrined in his undying verse."

l'alta gloria
Del Roman principato, il cui valore
Mosse Gregorio alla sua gran vittoria :
Io dico di Traiano Imperadore.

And then Dante gives the tale of the widow consoled for the loss of her son at length, "Purgatorio" x, 73–96. And yet again he returns to the theme in "Paradiso" xx, 44–48, saying of the Emperor in bliss (which consists, we must remember, entirely in conformity to the will of God)—

Ora conosce quanto caro costa
Non seguir Cristo, per l' esperienza
Di questa dolce vita e dell' opposta.

Our own countryman, Langland (1362 to 1399 A.D.), dwells not so much on the force of prayer as on the goodness of the Emperor as an example to the great of his day. Skeat's "Piers Plowman," ed. 1886, vol. i, pp. 339, 340, and again p. 379.

Misericordia eius super omnia opera eius.

'Ye, baw for bookes!' quath on . was broken out of helle—
'Ich, Troianus, a trewe knyght . ich take witness of a pope,
How ich was ded, and dampned . to dwellen in helle
For an vncristene creature ; . seynt Gregorie wot the sothe,
That al the cristendome vnder Crist . ne myghte cracche me thennes
Bote onliche loue and leaute . as in my lawes demynge!
Gregore wist this wel . and wilnede to my soule
Sauacion, for the sothness . that he seih in myn werkes ;
And for he wilnede wepynge . that ich were saued,
God of hus goodnesse . seih hus grete wil ;
With-oute moo bedes-byddyng . hus bone was vnderfonge,
And ich ysaued, as ye may see . with-oute syngynge of masse.
Loue, withoute leel by-leue . and my lawe ryghtful
Sauede me Sarrasyn . soule and body bothe.'
Lo, lordes! what Leaute dude . by an emperoure of Rome
That was an vncrystene creature.
Nought thorw preyere of a pope . but for his pure treuthe
Was that Sarasene saued.
Well oughte ye lordes, that lawes kepe . this lessonn to haue in mynde.
And on Troianus treuth to thinke . and do treuthe to the peple.
This matir is merke for mani of yow . ac, men of holy cherche,
The Legende Sanctorum yow lereth . more larger than I yow telle?
Ac thus lele loue . and lyuynge in treuthe
Pulte oute of pyne . a paynim of Rome.

I-blessed be treuthe . that so brak helle-gates,
And saued the Sarasyn . from Sathanas and his power,
There no clergie ne couthe . ne kunnynge of lawes.
Loue and leute . is a lele science;
For that is the boke blessed . of blisse and of ioye:
God wrought it and wrot hit . with his on fynger,
And toke it Moyses vpon the mount . alle men to lere.
"Lawe with-outen loue," quod Troianus . "leye there a bene,
Or any science vnder sonne . the seueue artz and alle,
But if thei ben lerned for owre lordes loue . loste is alle the tyme":—
For no cause to cacche siluer there-by . ne to be called a mayster,
But al for loue of owre lorde . and the bet to loue the peple.
For seynte Iohan seyde it . and soth aren his wordes,
Qui non diligit, manet in morte."

Lord Bacon, writing (in 1605 A.D.) of the same tale, "Advancement of Learning," First Book, vii, 5, edit. 1869, W. Aldis Wright, pp. 54, 55, says:—"How much Trajan's virtue and government was admired and renowned, surely no testimony of grave and faithful history doth more lively set forth than the legende tale of Gregorius Magnus, bishop of Rome, who was noted for the extreme envy he bare towards all heathen excellency; and yet he is reported, out of the love and estimation of Trajan's moral virtues, to have made unto God passionate and fervent prayers for the delivery of his soul out of hell; and to have obtained it, with a caveat that he should make no more such petitions."

6. The coincidence between Dr. Bliss's finding this inscription of 117 A.D. and his later excavations by Siloam is certainly curious. Trajan, who was childless, died either 9th or 11th August, 117 A.D. His empress stated that he had adopted Hadrian just before his death. Hadrian had married Trajan's grandniece, besides which Hadrian's father was Trajan's first cousin. Hadrian was born 24th January, 76 A.D. at Rome. He was left an orphan at 10 years of age under the guardianship of Trajan, who attached him to the army in Germany. He was serving with the 2nd Legion (Vespasian's old legion in Britain) when he was deputed by them to carry the army's congratulations to Trajan on his adoption by Nerva in 97 A.D. He served under Trajan in both his Dacian campaigns, and was by his side throughout the Parthian expedition. He was prefect of Syria in 117 A.D. when on 11th August he was saluted Emperor at Antioch. He went to Rome, and in the spring of 118 A.D. led a campaign against the Moesians. In 119 A.D. he began to carry into execution his determination personally to visit every corner of the empire, marching steadily on foot 20 miles a day with the legions, bareheaded, sharing the men's diet, black bread, cheese, and sour wine. He first passed thus through Germany and Gaul, and Britain, visiting York and Newcastle in the winter of 119–120 A.D., then back again into Gaul and Spain, where the winter of 120–121 A.D. was spent. Then crossed the Mediterranean into Morocco, and marched through the North African provinces into Asia, Parthia, and Syria. In the winter of 122–3 A.D. he was resident at

Athens; thence he passed to Sicily, and saw the sunrise from the top of Aetna. He was at Rome in 124 A.D., from thence crossed to Carthage, and returned to Rome, and in 125 A.D. to Athens again. There he built a new Athens, south-east of the Acropolis, and completed the great Temple of Jupiter Olympius. In 130 A.D. he visited Egypt, and went up the Nile to Thebes, and back to Alexandria, where he reconstructed a whole quarter of the city. The next year, 131 A.D., occurred that final outbreak of the Jews in Judæa under the gallant warrior, and last of the national heroes, Bar-kokheba, "son of a star," so called from Balaam's prophecy in Numbers xxiv, 17: "There shall come forth a star out of Jacob, and a sceptre shall rise out of Israel and shall smite through the corners of Moab, and break down all the sons of tumult, and Israel shall do valiantly; out of Jacob shall come he that shall have dominion, and shall destroy him that remaineth of the city." After putting down the insurgents in Egypt, Syria, and Palestine, he established in 132 A.D. the Roman colony of Aelia Capitolina at Jerusalem, so called after himself, Aelius Hadrianus, and on account of the immense and even then still impressive towering heights of the Herodean "Capitol," or present Haram area. Hadrian himself, however, did not come to Jerusalem till 134 A.D., when he was personally occupied for a considerable time in its rebuilding. He was a great architect himself, and travelled with a company of architects and artificers, and was officially entitled the "Restorer" of no less than 13 cities. It would be very strange if we did not find substantial traces of his work at Jerusalem, and probably much of what Dr. Bliss has been unearthing by Siloam belongs to this period. The great dam across the valley below the old pool (*Quarterly Statement*, 1895, pp. 305–312) resembles in character the construction at Birket Isrâil ("Jerusalem" volume of the Survey, p. 10), where the great fosse appears to have been similarly dammed by him. The ample supplies of water in the reservoirs beneath the Temple area would no longer be required for cleansing purposes after the Jewish sacrifices had ceased, and would be available for baths, &c., the remains of which have there been found by Dr. Bliss. His triumphal arch across the street, the so-called "Ecce Homo" arch, still exists. The inscription to his successor, Antoninus Pius, given in the *Quarterly Statement*, 1874, p. 209, and with slight differences in the "Jerusalem" volume of the Survey, p. 427, as IMP. CAES. TITO AELIO HADRIANO ANTONINO AUG. PIO P. P. PONTIFICI AVGVRI DECRETO DECVRIONVM, is said to be still legible, on a large stone built upside down into the south wall of the Haram just east of the Double Gate, and is supposed by M. Clermont-Ganneau to be the base of the statue erected to the Emperor Hadrian within the area where he built his temple to Jupiter. The inscription must anyhow belong to a date subsequent to 138 A.D. after the adoption of Antoninus. Hadrian died 10th July, 138 A.D., in the sixty-second year of his age, and twenty-second of his reign. The Bordeaux pilgrim in 333 A.D. saw the statue still standing. Other works executed by Hadrian at Jerusalem are described in the "Jerusalem" volume of the Survey, pp. 9 to 11.

Dr. Bliss is to be sincerely congratulated on the several Roman and Byzantine works he has thus been the means of bringing to light. Besides the fragments of Eudocia's wall (461 A.D.) along the southern slopes of Sion, the mosaic pavements both on Mount Sion and on Olivet, the Roman baths by Siloam, the Roman Camp at el Lejjun across the Jordan, and this interesting inscription at Neby Daûd, we have now to thank him further for the Roman works he has discovered on the eastern slopes of Mount Sion, as published in the *Quarterly Statement* for January last. The remains there coloured in red on the diagram opposite to p. 9 are nearly all Roman. The basis of the thick-walled square tower by the aqueduct and the aqueduct itself are undoubtedly so; and probably the "lower wall," with similar chambers, the entrance to which is from above only, as if they had been constructed for storehouses of some kind, is Roman also. Over the top of these Eudocia's wall, of later construction still, is shown as running. May he before next spring have the good fortune to discover for the Fund many other similar remains; he has already achieved as much within two years for Roman remains at Jerusalem as perhaps any previous explorer in the same short period of time ever did or could.

II.—By Ebenezer Davis.

Amongst the discoveries announced in the issues of the *Quarterly Statement* for the year 1895 as having been made by the officers of the Fund at Jerusalem, a prominent place must be given to the inscription found by Dr. Bliss in the wall of Neby Daûd.

I have looked through each *Statement* that has appeared since Dr. Bliss's discovery, but not having seen any adequate account of this important epigraph, I venture to present a few facts which may be useful for its fuller elucidation.

It is a votive inscription set up by a vexillarius or standard-bearer of the 3rd legion, *not* to Olympian Jove, but to Jupiter Sarapis, a Romano-Egyptian divinity, the object of the act of devotion being the health or safety and victory of the Emperor Trajan and the Roman people.

Strictly speaking, this divinity was foreign to the Pantheon both of Egypt and Rome, his statue having been brought from Sinope to Alexandria by Ptolemy Soter (B.C. 312–283), the first of the Lagidæ or Greek kings of Egypt. The name, however, had been given at a much earlier period to one of the old Egyptian deities, probably Apis, worshipped with the attributes of Osiris.

The introduction of the worship of the later Serapis into Egypt was viewed with great disfavour by the natives, who were votaries of the ancient gods of their country, and so intolerant were they of the strange cult that, as Macrobius informs us, the erection of Serapea, or temples of Serapis, was forbidden within the walls of the old cities of Egypt. We have it also on the authority of Strabo, the famous geographer, that the

great temple of Serapis at Memphis was outside the city, this statement of the learned Greek being confirmed by recent discovery.[1]

Some interesting particulars relating to this matter are given by Tacitus, who lived in the reign of Trajan.[2] This writer in his Histories, iv, 81, informs us that "while Vespasian staid at Alexandria (A.D. 70) awaiting the summer winds (which blow from May 27th to September 14th) and a calm sea, many wonders occurred by which the favour of Heaven and a certain goodwill of the Deities towards Vespasian were evidently signified. A poor blind man of Alexandria, known through the whole town by reason of his infirmity (warned by the God Serapis, whom that superstitious nation adores above others), fell down at Vespasian's feet and begged of him with tears to heal his blindness by wetting his cheeks and his eyelids round about with the spittle of his mouth. Another, lame of an hand, by the command of the same God, prayed Vespasian to vouchsafe that the limb might feel the imprint of a Cæsar's foot.[3] Vespasian at first scorned and rejected their suits, but when they still pressed upon him he was in a doubt what to do, fearing, on the one hand, the disreputation of vanity, while on the other, the importunity of the diseased persons, and the speeches of flatterers gave him some cause of hope; at last, he desired the physicians to consult whether such blindness and infirmity were possible to be cured by human help. The physicians (as their manner is) diversely disputed the point, but at last concluded—that the blind man's eyes were not perished but overgrown with some

[1] Referring to M. Mariette's uncovering in 1851 of the Serapeum at Sakkarah. No burials took place within any city of the living in Egypt. The sacred bulls were deposited after death from apparently the time of the Second Dynasty, 3,000 years B.C., down to the days of the Ptolemies, in their own series of vaults. The funeral of a bull, with full rites, cost about £20,000. These vaults, like those of all other sacred animals or human beings, were always outside and away from the cities of the living.—J. N. D.

[2] Trajan was born towards the end of 53 A.D., in the reign of Nero. Tacitus, who would be living when this inscription was cut, was born in 55 A.D. He began life under the patronage of Vespasian (who died June 23rd, 79 A.D., aged 70), and that of his two sons, Titus and Domitian. Titus was born December 30th, 41 A.D., and died September 13th, 81 A.D., having been Emperor two years and two months. His brother Domitian was killed September 18th, 96 A.D. Tacitus's Histories, as we now have them, end with the death of Domitian, but he had designed to add the reigns of Nerva and Trajan. Under Trajan all the works known positively to be his were composed. Whether he survived that Emperor we do not know. He tells us himself that he had reserved a work on the affairs of Trajan for the solace of his old age, which possibly he never attained. Juvenal too, we may remember, was born in 59 A.D. and died in 119 A.D.—J. N. D.

[3] The foot was one of the sacred emblems of Sarapis, being regarded as significant of Death as Departure, or as Crusher out of life. The test was, therefore, a crucial one. If the Emperor's foot was possessed with divine power when placed upon the cripple kneeling before him, it would be a proof that they were right in hailing him as Sarapis incarnate.—J. N. D.

film or skin, which being taken away the sight would return; and that the other man's limbs had gone awry or were dislocated, and might, with force conveniently applied, be set right again; that perhaps it was the pleasure of the gods to restore them to health, and to appoint the Prince as the divine means of doing it. Finally, that if the remedy had good success the glory would redound to the Prince that did it; if not, the shame would light upon the poor patients that importuned him. Whereupon Vespasian, determined to put all things to the touch of his fortune and thinking that nothing was incredible, with a pleasant countenance, before a great multitude who stood by attending the events, did as they had desired him, and immediately the blind man recovered sight and the cripple the use of his hand. They who were present affirm both to be true, even at this time when nothing is to be got by lying."

The great Roman appears to have suspected a deal of fraud and humbug in the whole affair, and doubtless he was right.[1]

The historian goes on to relate (Chapter 82) how the Emperor, his interest in Serapis having been excited, was "desirous to visit the sacred seat of the God and ask some questions relating to the Imperium, so after commanding all to depart, he entered into the temple alone, where, busied at his devotion, he thought he saw behind his back Basilides, a nobleman of Egypt, whom at the same time he knew to be sick in his bed many days' journey from Alexandria. Then he enquired of the priests whether Basilides had that day come into the temple and of others whether he had been seen in the city; and at last, sending horsemen on purpose, he found Basilides was no less than fourscore miles distant at that same moment. Upon which he concluded it was a divine vision and out of the name of Basilides derived an answer by the God to his question," *i.e.*, that he was recognised by the God as Basileus or Emperor. He had been saluted as Imperator at Cæsarea, July 17th, 69, but his rival Vitellius was not slain till December 21st, and the Senate had then confirmed the title. Vespasian, ever slow and cautious and now in his 60th year, had purposely delayed going to Rome, where his son, Domitian, was acting as Cæsar and Prætor for him. On January 1st, 70, Vespasian and Titus were elected Consuls, and Domitian Prætor. It was not till late in the summer of 70 A.D., that Vespasian arrived in Rome.

Tacitus proceeds (Histories, iv, 83):—"The original of this God has not

[1] "Voltaire joyfully proclaimed the authenticity of this miracle; Hume applauds the cautious and penetrating genius of the historian; Paley dissects the particulars of the narrative and points out a flaw in it." "It is not by any means easy to discover what were the religious feelings of Tacitus: at times he appears to have been a fatalist, at times an orthodox believer in the religion of the State: in the above narrative he has evidently no doubt as to the truth of the cure, if not of the miracle wrought by the Emperor."—DONNE. A very striking passage from Champigny "Rome et la Judée," p. 499, on the parallelism between Vespasian and Christ is quoted by Merivale, "Hist. of Romans," vol. viii, chap. lxv, p. 135, ed. 1865.—J. N. D.

been recorded by any of our writers, but the Egyptian priests relate the story after this manner : that Ptolemy, the first of the Macedonians, who obtained the kingdom of Egypt, when he added walls to the newly built city of Alexandria, also erected temples and instituted religion, saw in his sleep a goodly young man, much taller than ordinary, who warned him to send into Pontus some friends whom he could confide in, to bring his image from thence, that it would bring prosperity to the whole kingdom, but particularly to the place where the image should be set up ; and the young man seemed to be immediately carried up to heaven in a flame of fire. Ptolemy being moved with so great a miracle, declared his vision to the priests of Egypt, whose business it was to interpret such things. But when he found them ignorant of Pontus, and other foreign matters, he asked Timotheus, an Athenian of the family of the Eumolpidæ (whom he had brought from Eleusis to have the chief government in matters of religion), what devotion or God that might be. Timotheus, conferring with some who had been in Pontus, understood there was a city called Sinope, and near it an ancient temple dedicated to Jupiter Dis or Pluto, for there stood by it the image of a woman commonly called Proserpine. But Ptolemy, prone to fear as kings commonly are, and quickly returning to his former security, and being more addicted to pleasure than devotion, neglected for a while the matter and turned his thoughts another way, till such time as the same vision appeared again in a more terrible manner, peremptorily denouncing destruction both to him and his kingdom, in case what he had required was not performed. Then Ptolemy sent an embassy with presents to Scydrothemis, King of Sinope, desiring them to go by Delphos, and ask counsel of the Pythian Apollo. Their voyage by sea was prosperous, and the answer of Apollo was without ambiguity, namely, that they should go forward and bring his father's image along with them, but leave his sister's behind.

"84. The ambassadors came to Sinope, where, presenting their gifts, they opened their commission and declared what the king their master's request was. Scydrothemis was in doubt what to do, sometimes he was afraid of the displeasure of the God, sometimes the threats of his subjects, who were utterly averse to it, and sometimes he was inclined by the presents and promises of the ambassadors. And notwithstanding three years were spent in this negotiation, yet Ptolemy continued all the time an earnest and diligent suitor, and sent more honourable ambassadors one after another, together with more ships and gold.

"At last a terrible and threatening vision appeared to Scydrothemis, commanding him to prevent the determination of the Gods no longer ; but as he still delayed, various mischiefs and divers diasters befel him, and the manifest wrath of the Gods vexed him daily more and more ; so that calling an assembly of all the people, he declared to them the commands of the God, his own and Ptolemy's visions, and the impending mischiefs in case of refusal. But, however, they refused the motion, and fearing their own state, and envying Egypt, they beset the temple about.

"Whereupon there runs a strong report that the God himself went

aboard the ships of his own accord after they had been brought to shore, and which is wonderful, that they arrived at Alexandria in three days, though they sailed through so long and vast a sea; and so there was built a temple to the God agreeable to the magnificence of the city, in a place called Rhacotis, where an ancient temple had been dedicated to Serapis and Isis. This is the most famous opinion concerning the origin and transportation of this God." (Histories, iv, 83, 84.)[1]

Tacitus likewise informs us that Serapis was regarded by many as the sovereign ruler of all, by others as Osiris, the most ancient deity of that people, by most as Jupiter Dis, lord of the under world, and that he was also worshipped by many as Esculapius, or the god of healing. Sick persons were accustomed to pass a night in the Serapeum in order to effect their restoration to health.

Hence prayers might appropriately be offered to him by the Roman legionary PRO SALVTE IMPERATORIS ET POPVLI ROMANI.

Serapis was also adored as Pluto, lord of the under world, Hades personified. (Aïdoneus.)

The Romans appear latterly to have become much addicted to the worship of Serapis, Mithras, and other foreign idols, as may be plainly seen by votive inscriptions to them, profusely given in "Grüter," and other more modern works on classical epigraphy.

Altars had been dedicated by private Romans to the Egyptian deities previous to B.C. 58, in which year the Roman Senate decreed the abolition of the worship of the gods of Egypt, and the demolition of their temples.

This decree, however, was ineffectual in hindering the spread of the Græco-Egyptian worship, to which the Roman commonalty had become addicted, nor was a second Senatus Consultum, issued in B.C. 50, more preventive of the strange religion. We have it on the authority of Dion Cassius that the will of the people had so far prevailed by B.C. 43 that the Senate allowed the erection in the Circus Flaminius of a new temple to Serapis and Isis, from which time onward these divinities were worshipped without let or hindrance. Their votaries were very numerous in the time of Hadrian, and Alexander Severus magnificently adorned their temple. The worship of Jupiter Serapis was abolished at Alexandria in the reign of Justinian.

Though the importance of Dr. Bliss's discovery is greatest from the point of view of classical archæology, I desire nevertheless to point out to the devout inquirer that the study of the native and foreign cults of the Roman Empire at the time when this inscription was set up will forcefully illustrate the divine power of Christianity which brought so many nations out of the darkness of Pagan superstition, with its "Lords many and Gods many," into the light of that pure and simple faith,

[1] This translation of Tacitus is taken from that made by Sir Henry Savile and others, published in three volumes, 8vo, London, 1698. The above extracts are from vol. iii, pp. 347–350.

which acknowledges but "One God, the Father, and One Lord, Jesus Christ" (1 Cor. viii, 5, 6).

The text of the inscription was accurately given in ordinary Roman capitals on p. 130 of the *Quarterly Statement*, April, 1895, excepting that the name of the emperor is spelt TRAJINI—on the stone it is TRAIANI.

SOUTHAMPTON, *October 21st*, 1895.

A SHORT DESCRIPTION OF SOME BIBLE COINS FOUND IN PALESTINE.

By the Rev. THEODORE E. DOWLING.

I. THE SHEKEL, שקל, corresponding to the word *weight*.

THERE is no distinct allusion to the five silver shekels of Simon Maccabæus (B.C. 141–136) in the New Testament. "The thirty pieces of silver" (St. Matthew xxvi, 15, and xxvii, 3, 5, 6, 9), for which our LORD was betrayed, considered with the parallel passage of Zechariah (xi, 12, 13), suggest this probable reading "thirty *shekels* of silver"—not actual shekels, but Syrian tetradrachms, of the same weight. The Revised Version of the New Testament renders the passage "they weighed unto him thirty pieces of silver." To this day it is usual in Jerusalem to examine and test carefully all coins received. Thus a Medjidie (silver) is not only examined by the eye, but also by noticing its ring on the stone pavement, and English sterling gold is carefully weighed, and returned when defaced. The mention of the weighing of the silver may indicate a similar state of things, as regards currency, in our LORD'S time.

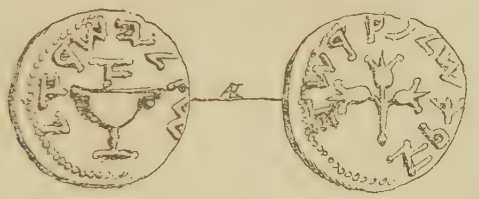
The first distinct allusion to the earliest native Jewish coinage is found in the Apocrypha. There are frequent references to the shekel in the Old Testament, but only as a certain weight of silver, not as a stamped coin.

Antiochus VII (Euergetes, Sidetes), famous for his siege and capture of Jerusalem, B.C. 133, "gave" Simon Maccabæus, the brother of the celebrated Judas, "priest and prince of the Jews," "leave to coin money for thy country with thine own stamp" (1 Maccabees xv, 6) in November, B.C. 139.

"The Shekel of the Sanctuary," or "Holy Shekel" was probably the normal weight, and preserved in the Temple.

Its value was about two shillings and eightpence of English money. The average shekel, found in Judæa, weighs between 200 and 220 grains, troy weight. The silver shekel and half-shekel were struck on the Phœnician standard.

The cup (*obv.*) represents the pot of manna (Exodus xvi, 33), and the central device (*rev.*), Aaron's rod that budded (Numbers xvii, 8). No heads or busts are found on the obverse side of strictly Jewish coins.



Shekel of the first *official* year of Simon Maccabæus, B.C. 141–140.

Obverse.—*Shekel Israél*, "Shekel of Israel." A cup or chalice. On either side, a pellet. Above, an *Aleph*, *i.e.*, the numeral letter 1.
Reverse.—*Jerushalem Kedoshah*, "Jerusalem the Holy." Central device, Aaron's Rod.

II. The Half-Shekel, בקע, *Bekah.*

"And when they were come to Capernaum, they that received the half-shekel (Greek, didrachma) came to Peter, and said, Doth not your master pay the half-shekel? He saith, yea. And when he came into the house, Jesus spake first to him, saying, what thinkest thou, Simon? The kings of the earth, from whom do they receive toll or tribute? from their sons, or from strangers? And when he said, from strangers, Jesus said unto him, therefore the sons are free. But lest we cause them to stumble, go thou to the sea, and cast a hook, and take up the fish that first cometh up; and when thou hast opened his mouth, thou shalt find a shekel (Greek, *stater*); that take, and give unto them for me and thee." (St. Matthew xvii, 24 to end, *Revised Version.*)

The annual tax of the half-shekel was, in the course of time, demanded of every free-born adult Jew of the age of twenty years, but under fifty, for the support of the Temple worship. Priests and women were exempt, but not paupers. It was called Atonement or Ransom Money of the Lord. This Temple poll-tax was levied, and willingly paid, between the 15th and 25th of the month Adar (March-April) at the time of the Passover, of each year.[1]

[1] "What must have appealed to every one in the land was the appearance of the 'money-changers' (Shalchanim), who opened their stalls in every country-town on the 15th of Adar (just a month before the feast). They were, no doubt, regularly accredited and duly authorised. . . . . From this tax many of the priests—to the chagrin of the Rabbis—claimed exemption on the ingenious plea that, in Leviticus vi, 23 (A.V.), every offering of a priest was ordered to be burnt, and not eaten; while from the Temple-tribute such offerings were paid for as the two wave loaves and the shewbread, which were afterwards eaten by priests. Hence, it was argued, their payment of Temple-tribute would have been incom-

The half-shekel was the Old Testament sacred tribute (2 Chronicles xxiv, 4–15).

The Jews, in their poverty, after the Babylonian Captivity "charged" themselves "yearly with the third part of a shekel for the service of the House of God" (Nehemiah x, 32, 33). This ordinance of Nehemiah survived in the time of our Saviour, when the prosperity of the Jews enabled them to return to the original command:—"A bekah for every man, that is, half a shekel, after the shekel of the sanctuary." (Exodus xxxviii, 26.)[1]

At Capernaum, Simon Peter is asked: "Doth your master pay tribute?" (*i.e.*, the half-shekel). He is sent to the Lake to find "a piece of money" (a silver stater), the exact sum being named by St. Matthew. The instructions are: "that take, and give unto them for Me *and thee*." In other words, thou shalt find a shekel, the authorised tribute for two souls—neither more nor less—that take, and give unto them (the Jewish Collectors) "for Me *and thee*." No one except our Lord ever paid the whole shekel. It was illegal.[2] Each man must pay his own half-shekel, year after year. But our Saviour paid the *whole* Shekel, τὰ δίδραχμα (plural, with the article, as something perfectly well known). Shekels, half-shekels, and copper quarter-shekels had become scarce, not being re-struck after the Maccabæan rule. The silver currency of Palestine in our Lord's day consisted of tetradrachms of Phœnician and Syrian cities. The Stater of St. Matthew was therefore a silver Tetradrachm, which was of the same value as two half-shekels.

patible with Leviticus vi, 23! . . . When it is remembered that, besides strictly Palestinian silver and especially copper coin, Persian, Tyrian, Syrian, Egyptian, Grecian, and Roman were circulated in the country, it will be understood what work these 'money-changers' must have had. From the 15th to the 25th Adar they had stalls in every country-town. On the latter date, which must, therefore, be considered as marking the first arrivals of festive pilgrims in the City, the stalls in the country were closed and the money-changers henceforth sat within the precincts of the Temple. All who refused to pay the Temple-tribute (except priests) were liable to distraint of their goods." Edersheim's "Life and Times of Jesus the Messiah," vol. i, ch. v, pp. 367-8. "The official money-changers for a fixed discount changed all foreign coins into those of the Sanctuary." *Ibid.*, vol. i, ch. i, p. 114.

[1] "One of the 'thirteen trumpets' in the Temple, into which contributions were cast, was destined for the shekels of the current, and another for those of the preceding year. These Temple contributions were in the first place devoted to the purchase of all public sacrifices, *i.e.*, for those which were offered in the name of the whole congregation of Israel, such as the morning and evening sacrifices." . . . . "It seems a terrible irony of judgment when Vespasian ordered, after the destruction of the Temple, that this tribute should henceforth be paid for the rebuilding of Jupiter Capitolinus." Josephus, "Wars of the Jews," book vii, ch. vi, 6; "The Life and Times of Jesus the Messiah," vol. ii. pp. 111–114.

[2] *The Silver Sockets*, pp. 11–15.—Waller.

The value of the silver half-shekel was about one shilling and fourpence of English money. The average weight of existing coins is 110 grains, troy weight. No gold half-shekels or shekels are known to be in existence. Copper specimens of one-half of a shekel and one-quarter of a shekel of the "fourth year" of Simon Maccabæus (B.C. 138–137) are still found in Jerusalem.

The genuine silver half-shekel is a rare coin in Jerusalem. The Fellahin occasionally find specimens of the shekel ("year 3") in Judæa, during the ploughing season, but I have only seen four half-shekels in Palestine—three in Jerusalem and one at Haifa (Galilee). I recognised a false half-shekel (probably a recent Hebron forgery) in an European University Museum in 1894. The Jews in Hebron sadly impose upon the uninitiated tourist in Palestine with their skilful imitations of silver shekels of the "year 2," and "year 3." Dr. Selah Merrill, a late American Consul in Palestine, told me that in his early days at Jerusalem, false Jewish coins were seldom offered for sale. It may be asked, why are shekels more easily obtained than half-shekels? Perhaps the sacred money of the Temple was melted down by the Roman conquerors of Jerusalem. Hence their scarcity.

Silver Half-shekel, B.C. 140–139.

Obverse.—*Chatzi ha-shekel*, "Half-shekel." Pot of manna ornamented with Jewels. Above, the letter *Shin* with a *Beth*, *i.e.*, "Year 2."
Reverse.—"Jerusalem the Holy." Central device, Aaron's Rod.

In June, 1890, a small earthenware jar, containing five shekels and two half-shekels, was brought to the Rev. C. T. Wilson, Jerusalem, by the Church Missionary Society Native Teacher at Bîr ez Zeit, in the Jebel el Kuds (or Jerusalem hills), about one hour and thirty minutes' ride, north-west of Bethel. The story of its discovery, as related to Mr. Wilson, at Bîr ez Zeit, is as follows:—A woman of that Christian village was getting firewood on the site of a ruin known as Khurbet Sia, about one hour's ride W.N.W. of Bîr ez Zeit, close to the village of Koba. She saw in the crevice of a rock what she took to be the shell of a species of snail which is eaten by the Fellahin, but, on getting it out, found it was a small jar. Inside this jar were the above-mentioned coins, specimens of which illustrate the text. The coins were in exceptionally good condition, so much so that Mr. Wilson was suspicious of them. However, he ultimately bought the whole of them, with the jar. When found, the jar was full of a fine yellow powder, which the woman emptied out. Mr. Wilson tried afterwards to secure some of this powder, but without success. The jar is 4⅝ inches in height, and is perfect.

III. The Penny: *Greek*, δηνάριον; *Latin*, denarius.

"Shew me the tribute money. And they brought unto him a penny. And he saith unto them, whose is this image and superscription? they say unto him, Cæsar's" (St. Matthew xxii, 19–22).

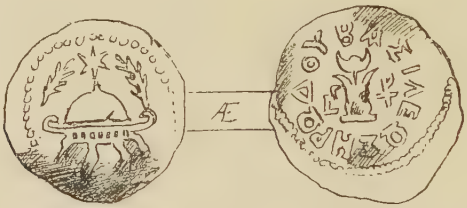
"Bring me a penny" (St. Mark xii, 15).

There was a familiar saying of the Rabbis: "Wherever any King's money is current, there that King is lord."

The silver Imperial penny (or Denarius) was the civil tribute money exacted from the Jews in our Saviour's day for the Roman Emperor. This tax was specially hateful to the independent and turbulent Galilæans.

Its value was about eightpence half-penny of English money. The Denarius was the ordinary day's wages of the Palestinian peasantry (St. Matthew xx, 2).

The Denarius is mentioned eleven times in the Gospels, and once in the Revelation (vi, 6). It could not have been a coin of the Herods. The head of Herod I is never represented on his twenty copper coins. There is no "image" on any of the ten coins of Herod Archelaus, or on the nine of Herod Antipas.



Herod I, surnamed the Great, B.C. 37–4.

Obverse.—A helmet with cheek-pieces. Above, a star. On either side, a palm branch.

Reverse.—ΒΑΣΙΛΕΩΣ ΗΡΩΔΟΥ, a tripod, in the *field* to the left L. Γ (Year 3), and in *field* to right the monogram $\frac{P}{T}$.

Tiberius was the reigning Emperor from A.D. 14 to 37. The denarii both of this Emperor and of his predecessor Augustus (A.D. 6–14) were unquestionably current in Palestine in our Lord's time.[1] It is not possible to state positively whether the coin brought to our Saviour bore the similitude of the former or the latter. The probability is that it represented the image of the *then* reigning Cæsar. In Jerusalem, however, the coins of Augustus are, at the present day, more common than those of Tiberius.

[1] Three copper coins of the Tetrarch Herod Philip II, son of Herod I (St. Luke iii, 1), B.C. 4–A.D. 34, have the head of Augustus (obv.), and three later coins the head of Tiberius. Specimens, however, are now exceedingly rare in Jerusalem.

The Denarius is the only Roman silver coin mentioned in the New Testament, and it was the ordinary silver currency of Palestine. Originally, as its name implies, it was a coin equal to ten ases (*denis assibus*). During the reign of Tiberius the Denarius contained sixty grains troy of silver, and was then considered equivalent to the fourth part of the silver *stater*, or tetradrachm, or shekel.

The Penny (or Denarius) of Tiberius, A.D. 14–37.

Obverse.—TI[berius] CÆSAR DIVI AUG[usti] F[ilius] AUGUSTUS.
These Denarii are not all from one die, implying different dates.
Reverse.—PONTIF[ex] MAXIM[us].

IV. The Farthing: Greek, Ἀσσάριον; *Latin*, as, or assarius, and *Greek*, κοδράντης; *Latin*, quadrans.

"Are not two sparrows sold for a farthing?" (St. Matthew, x, 29.)
"Are not five sparrows sold for two farthings?" (St. Luke, xii, 6.)

1. The *as* was (probably) a *Roman* brass coin, struck at Antioch, in value, in our Lord's time, one-sixteenth of the Denarius, and nearly the size of a halfpenny. Its weight averages 143 grains. At this date no *Roman* coins were current in Palestine of a smaller value than the *As*. A lengthened search in Jerusalem has failed in my procuring even the sight of one of these coins.

2. A Greek imperial brass coin (κοδράντης, St. Matthew, v, 26, and St. Mark, xii, 42) is also rendered in the Authorised Version of the New Testament as a Farthing. I have also failed to obtain a specimen of this coin.

There being much difficulty about the New Testament Farthing, the above paragraph was submitted to a distinguished Scotch numismatist — a specialist in Jewish coinage. His reply is as follows:— "I have consulted over a dozen works, and find they are all at sixes and sevens on the λεπτόν and κοδράντης. I am inclined to take the latter as signifying the *quadrans*. St. Mark, writing, as is supposed, for Roman readers, informs them that a λεπτόν was = ½ quadrans. So that I am not sure that we need suppose that a coin of the value of the *Quadrans* is asserted to have been in circulation in Palestine in the first century. There is no mention of such a coin in the Mishna (*see* 'Schürer History,' &c., Div. II, vol. i, p. 40)."

Another numismatist in Galilee has suggested one or other of the small copper coins of the five first Procurators of Judæa, and I am

inclined to agree with my learned friend, the Rev. J. E. Hanauer, of Jaffa, that this may have been the case.

1. There is a rare coin of Coponius, the first Procurator. Only one specimen is in my collection. This coin may, therefore, be left out of consideration.

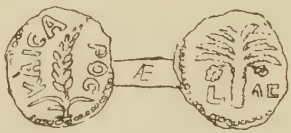
Reign of Augustus.

Coponius, First Procurator, A.D. 6–7.

Obverse.—KAICAPOC. An ear of corn.

Reverse.—A palm-tree, from which hang bunches of dates. In *field*, to right and left, L. ΛΓ (Year 33).

2. Marcus Ambivius, Second Procurator, has a coin nearly resembling that of Coponius. It is easily procurable in Jerusalem.



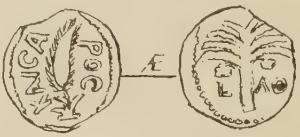
Marcus Ambivius, Second Procurator, A.D. 9–10.

Obverse.—KAICAPOC. An ear of corn.

Reverse.—A palm-tree, from which hang bunches of dates. In *field*, to right and left, L. ΛϚ (Year 36).

3. Three coins are attributed to Annius Rufus, Third Procurator. The first, L. Λϴ (A.D. 12–13), and third, L. ΜΑ (A.D. 14–15), are stil common, but the second issue, L. Μ. (A.D. 13–14), is scarce.

Reign of Augustus.



Annius Rufus, Third Procurator, A.D. 12–13.

Obverse.—KAICAPOC. An ear of corn.

Reverse.—A palm-tree, from which hang bunches of dates. In *field*, to right and left, L. ΛΘ (Year 39).

4. There are at least twelve coins belonging to Valerius Gratus, Fourth Procurator. Only two of these are now frequently found, viz., a coin of the Fifth Year L. E. (A.D. 18–19), and another of the Eleventh Year, L. IA (A.D. 24–25). The interesting specimen of the Fifth Year is reproduced.

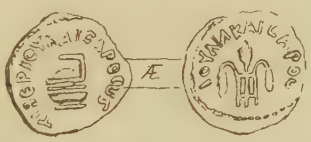
Reign of Tiberius.

Valerius Gratus, Fourth Procurator, A.D. 18–19.

Obverse.—TIB – KAI – CAP, in three lines within a wreath.
Reverse.—IOY–AIA. A palm. In *field*, to right and left, L. E (Year 5).

5. Five coins are connected with Pontius Pilate, Fifth Procurator. Four of them are common. A specimen of the first known issue, sixteenth year (A.D. 29–30), is given.

Reign of Tiberius.



Pontius Pilate, Fifth Procurator, A.D. 29–30.

Obverse.—TIBEPIOY KAICAPOC L. IS (Year 16).
Reverse.—IOYAIA KAICAPOC. Three ears of corn bound together.

The obverse side of many of these Procurator coins is officially stamped with the approved KAICAPOC, and the reverse side is frequently either a palm tree or a palm branch.

The coins struck by the Procurators of Judæa seem to have been a local Hebrew currency, with the Roman imprimatur. "We have no King but Cæsar!" covered their first century status, at least, barring revolts, when they re-asserted themselves alone.

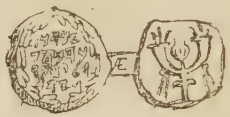
Do not the dates attached seem to favour either a coin of Marcus Ambivius and Annius Rufus in the reign of Augustus, or a Valerius Gratus and Pontius Pilate in the reign of Tiberius, as the New Testament Farthing? But this section demands a searching investigation, and Dr. Williamson ("The Money of the Bible," p. 66), may well draw attention to "the words which are in the Authorised Version very much mistranslated as *farthing*."

V. The Mite: *Greek*, λεπτόν; *Latin*, minutum.

"Two mites which make a farthing." (St. Mark, xii, 42, and St. Luke, xxi, 2.)

"The very last mite." (St. Luke, xii, 59.)

The Widow's Mite was a Jewish coin. Foreign money was not accepted in the Temple. Roman money was exchanged by the money-changers at their stalls in the Court of the Gentiles.[1] The Mite was the smallest current Jewish copper coin in the time of our Saviour.[2] It was also the smallest Temple contribution, legally admissible. The Mite was (probably) one of the coins—not re-struck—of Alexander Jannæus (B.C. 105–78), or one of the other early Jewish princes.



The Mite.

A coin of Alexander Jannæus.

Obverse.—"Jonathan, the High Priest, and the Confederation (or Senate) of the Jews," within a wreath of olive.

Reverse.—Two Cornua-copiæ, between which a poppy-head.

My thanks are due to the Rev. C. T. Wilson, Jerusalem, for the loan of his silver shekel and half-shekel, exceptionally well-preserved specimens; also to Miss Hussey, of Jerusalem, for supplying the illustrations from my collection of Jewish and Syrian coins; also to Mr. Madden, for invaluable guidance obtained from his helpful "Coins of the Jews."

[1] "Under the Colonnades, which surrounded 'the Court of the Women' . . . . provision was made for receiving religious and charitable contributions. All along these colonnades were the thirteen trumpet-shaped boxes (Shopharoth). . . . . These 'trumpets' bore each inscriptions, marking the objects of contribution." Edersheim's "Life and Times of Jesus the Messiah," vol. ii, p. 386.

[2] "Simon Maccabæus had copper money coined; the so-called copper shekel, a little more than a penny, and also half and quarter shekels (about a half-penny and a farthing). His successors coined even smaller copper money. During the whole period from the death of Simon to the last Jewish war no Jewish silver coins issued from the Palestinian mint, but only copper coins. Herzfield suggests that there was sufficient foreign silver coinage circulating in the country, while naturally only a very small amount of foreign copper coins would be brought to Palestine." Edersheim's "Life and Times of Jesus the Messiah," vol. i, ch. v, p. 367, *note*.

THE ROCK OF ETAM AND THE CAVE OF ADULLAM.

I.—By the Rev. W. F. Birch, M.A.

It is pleasant to observe that neither Professor Gauneau (p. 80) nor Lieut.-Colonel Conder (p. 82) offers any objection topographically to these places. The instance of Deir Dosi (Theodosius) cited by the former suffices to show that Chariton is not to be suspected merely because the term *Mar* Khureitun is not now in use. My suspicion, however, that the hermit who lived near (or in) the Cave of Etam (Chor Etam) acquired the name of Chariton from his residence still lingers. Some mystery seems to hang over this ascetic. Apparently he is not thought worthy of a place in Smith's "Dictionary of Christian Biography." Some say he founded two Lauras, others one. In Ritter's note on Khureitun reference is made to a life of Chariton in "Acta Sanctorum" (September 28th, p. 615). If the hermit of Etam previously had a different name I shall be satisfied that we have been imposed upon as to Chariton. Perhaps some reader will kindly search the "Acta" and report.

Eureka.—The reference is wrong. Let me give the story briefly from Sosius, *Vita Charitonis:*—

Chariton hailed from Iconium. During a persecution he was asked his name and religion. The former question he passed (I suppose) as impertinent; to the latter he answered "Christian." After being repeatedly tortured, short of killing point, lest he could not be tortured further, he was released. Off he went to the Holy City. In a narrow place, a day's march from Jericho, he fell among thieves, was robbed, bound, and led into a cave, the brigands' den. They started after more game, while Chariton prayed. A serpent coming in, drained a jar of wine and filled it instead with venom. The robbers return thirsty, swallow the venom as wine, and fall dead. Chariton's bonds fall off; he gets for himself the robbers' treasure, and erects a Laura, turning the den of thieves into a Church. Harassed by visitors he flits, and builds a second Laura near Jericho; harassed again, he flits again, and builds a third Laura (in Wady Khureitun) about 2 miles from Tekoa. He is harassed yet a third time. Happily he had learnt that there was a certain cave (the Cave of Adullam) situate in a precipitous and craggy mountain, and not far distant from this (last) holy Laura, which (cave) to this day (says Sosius) is called *Cremastus, i.e.*, the suspended cave, for no one is able to reach it without ladders. Here the illustrious man makes his abode. After a long time, when he was too old to minister to himself, and too holy to be served by others ("*petra rursus non virgâ percussa sed precatione aquam emittit*"), on his praying, from one side of the cave immediately there gushes out the coldest and purest water, which remains (or flows) to this day, not assuaging thirst only, but also being a perfect proof of the saintliness of Chariton.

Why the coyness of Chariton as to his name? I can see that the hermit who dwelt in the Cave of Etam (Chor Etam) might well be nicknamed after his abode; but until some explanation is offered, I fail to see (1) how, while *Aitûn* may represent Etam (Names and Places in O. Test.), neither *Eitûm*, nor *Aytûn*, nor *Eitûn* (as variously spelt) may represent Etam; and (2) why *Khur* (Arabic) cannot come from the Hebrew *Chor*. Ritter gives "*Chareitun* or *Khureitun*." Let me hope that before long the Cave of Khureitun will once more be known as the Cave of Adullam, and the gorge as the Cleft of the Rock Etam.

II.—By the Rev. J. E. Hanauer.

Having read, with great interest, the Rev. W. F. Birch's paper on the "Rock of Etam and the Cave of Adullam" in the *Quarterly Statement* for October, 1895, and also his series of articles on "Hiding Places in Canaan, the Rock of Rimmon," &c., &c., I would, in the following, briefly call his attention and that of such of your readers as may be interested in the subject, to the fact that there exists, not so far away from Samson's country as is the Wady Khureitun, but at the distance of little more than a mile or two from his birthplace, Zorah, and yet within the boundaries of the territory of the tribe of Judah, amongst the mighty crags overhanging the gorge of Wady Ismain on the north, a gigantic rock or סלע *sel'a*, in which there is a remarkable fortified cavern or natural stronghold, which (as is proved by the existence of a small building—perhaps once a chapel—in its mouth, mosaic pavements, cisterns, and the remains of a massive masonry frontage wall, which, in the days when recluses and hermits swarmed in this country, screened and rendered it a veritable "Megaspilion" on a small scale), was at one time used, like the Cave at Khureitun, as a "laura," or the headquarters of a community of ascetics.[1] In 1890 I had the honour of forwarding you, along with

[1] Though I have, as yet, not succeeded in discovering any record referring to this laura, yet in its immediate surroundings there is a circumstance that indicates that, unlike the "anachoretes," who, choosing a hermit life in the wilderness, professed to spend the whole of their time in meditation and prayer, whilst they lived upon the alms of the faithful and whatever else they could find, the inmates of the cœnobium at 'Aràk Ismain were not only "religious," but also "industrious." (Neander, "Kirchengeschichte," Band II, Abtheilung 2, pp. 356-360.) Clinging to the declivity of the 'Aràk, below though far down beneath the great cave, is a grove of very ancient olive trees. That these were originally planted and tended by the monks is proved by the fact that the trees are still considered sacred. They now belong to the "wakf" of the Sheikh Ismain, whose shrine is in the valley. The fellahin in the neighbouring villages have a wholesome dread of incurring the saint's wrath by stealing either wood or olives from this interesting grove, which is sadly neglected. An Artûf peasant very gravely told me that some years ago

other photographs, one of the small building above mentioned. As this great cavern lay just out of the way of ordinary visitors to Palestine, it succeeded in escaping the observation of explorers till, a good many years ago, I called the special attention of Baurath von Schick to it. He had, as he informed me, seen it from a distance, and as the night was drawing on, when in 1864 he accompanied the late Dr. Zimpel on a journey made through this part of the country with the object of surveying the most practicable route for the then projected railway. It was not, however, till I had described the place *in detail* to him, and told him my reasons for believing it to be the rock Etam of Judges xv, 8–11, that he was induced to allow me the honour of guiding him to a spot from which he could get a near view of the great cave, though his age prevented him from hazarding a descent to it. This was on the 23rd or 24th of October, 1885, when he also examined the Zorah altar, a columbarium, and some other curious old remains which I had the pleasure of pointing out to him. (*See* "Khurbet 'Orma," *Quarterly Statement*, January, 1886, pp. 24–26.) In the "Zeitschrift" of the German "Palestina Verein" for 1887, and also in "Neueste Nachrichten aus dem Morgenlande," he describes all these things, as well as others, and also endorses my opinion, above-mentioned, about the 'Arak Ismain, and which I first ventured to broach in my paper dated November 3rd, 1885. (*Quarterly Statement*, 1886, p. 25, lines 17–20.) The 'Arâk and its cave form a fastness that completely and remarkably satisfies, and *better than does that at Khureitun*, all the requirements of the Bible story. The cave is approached by descending through a crack or fissure in the very edge of the cliffs overhanging the chasm of Wady Ismain. The crack is scarcely wide enough to allow one person to squeeze through at a time. It leads down to the topmost of a long series of rudimentary steps, or small artificial foot-ledges, cut in the face of the cliff, and descending to a narrow rock terrace running along the front of the cave, and between it and the fragments of massive wall above described. On this ledge or platform, which resembles that at Khureitun, there also lie huge blocks of stone as large as those Mr. Birch describes. Blue rock pigeons have their nests in the ancient cisterns partly hewn into and partly solidly built against the precipice rising from the back of the ledge. The largest cistern has a fair-sized wild fig tree growing from its bottom, whilst bushes of terebinth, caper, carob, and rue spring from chinks in the rocky wall rising above it. Upon the platform, and also inside the smoke-blackened cave itself, which I have frequently visited, I have often picked up feathers of vultures and other large and fierce birds whose eyries are in the crevices and cracks of the rocks overhanging

a man who had dared to steal wood from here, was, a short time afterwards, found dead, together with his camel, in an empty مفحمة *mafhameh* or charcoal-burner's cave, into which he had retreated for shelter during a storm. It was, of course, the "wely" that drove him to his destruction, and thus punished the sacrilege of which he had been guilty.

the ledge. This fact alone would suffice to justify the title of this savage spot to the name of עיטם "Etam," or "the Haunt of the Bird of Prey." Even the remark of Josephus, about Samson's "*descent*" to the 3,000 men of Judah, referred to by the Rev. W. F. Birch, is true to nature, for though to ascend to and storm the cave in the face of a determined defender would be impossible, yet to descend from it to the torrent-bed almost sheer down several hundred feet below, though not easy, is, as the Palestine Exploration Fund's Honorary Secretary for Palestine, the Rev. T. E. Dowling (who once tried the experiment with me), can testify, quite possible. The railway now runs alongside this torrent-bed and in full view of the cavern of the staircase leading down to it and of the vaulted structure inside it, so that every student of the Bible passing by on his way to or from the Holy City, can, as he gazes awe-struck at the frowning precipices towering so high above him, imagine the scene which Mr. Birch asks the Executive Committee's artist to depict, viz., "The shaggy Nazarite standing alone on the 'dizzy' ledge near the cave's mouth, terrible in mien, and as wild as the beetling cliffs around," &c.

At a short distance higher up the valley there are, amongst the crags, in continuation of the 'Aràk Ismain, other hermits' caves, called "'Alàli el Benat." I have not visited these, but am told, by persons who have, that "one of them contains a small spring of very good water." This at once recalls the curious reference which Mr. Birch brings forward from the Alexandrian Codex of the LXX, "by the brook in the Cave of Etam."

In his German paper, Herr von Schick adduces an argument somewhat similar to Mr. Birch's, to show that the theory that the "*sel'a*" Etam was at Beit 'Atâb is untenable, and he also shows that the theorist is apparently dissatisfied with the identification he has proposed, "for in the *Quarterly Statement* for 1876, p. 176, and for 1883, p. 183, he searches for En Hakkore somewhere near Kesla, north-east of Artûf; for Lehi at Khurbet es Siagh: for Ramath Lehi at Khurbet Marmita, and for 'the Jawbone,' in the ravine of Ismain. By so doing," says the Baurath, "he approaches my view of the matter in this, that he considers the district round Artûf fitter for the history of Samson than that at Beit 'Atâb."

I would conclude with the remark that with the 'Aràk Ismain and its "cleft" or gorge so near the scene of other events in the Danite hero's life, it seems utterly needless to seek for the "*sel'a*" Etam at such a distance from the Shephelah as is Khureitun.[1]

[1] The Rev. W. F. Birch's derivation of the name Khureitun is extremely ingenious but, I think, untenable. The ascetic Chariton did not have the title of *Mar* prefixed to his name because the traditional Cave of Adullam was the head-quarters of the heretical and fanatic sect of the "Origenists," who lived in deadly and long-continued feud with their "Orthodox" brethren at Mar Saba and other monasteries. I am, however, inclined to derive the name "Khureitun," or rather "Choreutŭn," (the diphthong "eu" pro-

A VISIT TO ARSUF.

By Rev. J. E. Hanauer.

About two months ago the Rev. T E. Dowling and I visited the ruins of Arsuf, on the coast. We were surprised to find a great quantity of lumps of melted glass lying about. Can any of the readers of the *Quarterly Statement* give any explanation that will account for this? Is there any mention of glass works at this place in ancient times? Or, are we to suppose that these masses of glass are the result of the action of some great conflagration upon the sandstone? It is known, for instance, that during the terrible forty days' siege in 1265, the ferocious Bibars had all the trees in the vicinity hewn down, thrown into the dry moats outside the fortifications, and set fire to. I shall be thankful for any information on this subject. One naturally thinks of the story of the accidental discovery, by shipwrecked sailors, of the way to make glass.

The effendi in charge of the great Haram 'Ali ibn 'Ileim, close to Arsuf, showed us great kindness. He informed me that some years ago he dug up a beautiful female statue about 3 feet high, from amongst the ruins, and sent it to the Muttaserif (Raouf Pasha) at Jerusalem.[1]

BAROMETRICAL DETERMINATION OF HEIGHTS IN LEBANON.

By Professor R. H. West, M.A.

The observations given below were taken with the same instruments as were used in the previous series, published in the *Quarterly Statement* for April, 1891, and July, 1892, and the method of reduction is the same as was there employed. The observations are faulty, in that no separate

nounced as it would be in German) from the name χορευται which was applied to many of these wild religious enthusiasts and recluses on account of their mystic, dervish-like dances.—(Neander, "Kirchengeschichte"; Hamburg, 1830, Band II, Abtheilung 2, pp. 346 and 500–618; also "Robinson's Biblical Researches," vol. i, pp. 380–384, and Kurtz, "Lehrbuch der Kirchengeschichte," Leipsic, 1887, vol. i, pp. 206 and 268.)

[1] I am under the impression that Professor Clermont-Ganneau has, somewhere or other, described the remarkable figure of an eagle which was discovered at this place some years ago, and which he connects with the name "Reseph" (1 Chron. vii, 27), but am utterly unable to lay my hand upon his paper on the subject. I find no reference to it in the Palestine Exploration Fund Index.

I.—Observations with Mercurial Barometer.

—	Date.	Beirut.			Upper Station.		Altitude in feet.
		Barom.	Att.	Ext.	Barom.	Att.	
	1895.						
1. Ba'abdât..	July 23 ..	29·806	81·0	80·2	27·124	72·5	2,811
2. Shweir, Scotch Mission	„ 23 ..	29·806	81·8	82·5	26·222	77·0	3,928
3. Naba' Ṣunnîn	„ 24 ..	29·800	80·0	80·0	24·760	64·0	5,364
4. Summit, Jebel Ṣunnîn..	„ 24 ..	29·795	83·0	83·0	22·038	64·5	8,712
5. Eastern Summit, Jebel Kanîsah ..	„ 25 ..	29·760	83·0	84·3	23·466	73·0	6,957
6. Naba' Bârûk	„ 26 ..	29·778	81·0	81·0	26·374	65·5	3,552
7. Nîḥa	„ 27 ..	29·824	82·8	82·4	26·598	79·5	3,435
8. Northern Peak, Taumât Nîḥa ..	„ 27 and 29	29·828	81·7	84·3	24·643	72·5	5,626
9. Jabâ' ul-Ḥalâwi	„ 29 ..	29·804	81·6	86·4	27·386	81·0	2,587
10. Judeidat ush-Shûf	„ 31 ..	29·700	80·5	82·5	27·352	63·5	2,467
11. 'Âleih	September 2 ..	29·818	84·2	83·3	27·446	73·0	2,387
12. 'Abeih	„ 2 ..	29·818	84·0	84·0	27·482	76·0	2,361

thermometer was used to obtain the temperature of the air. Care was taken, however, to protect the barometer during the observations, and to give it time to approximate the temperature of the air; in this way the error introduced by assuming the temperature of the air to be the same as the reading of the attached thermometer is probably reduced to a small amount.

A few notes are added, giving the corresponding heights according to other authorities.

II.—Determinations with Aneroid Barometer.

These results are probably quite accurate, as the readings of the aneroid are corrected in accordance with comparisons with the mercurial barometer made both before and after.

13. Marûj	4,055	21. Mukhtârah ..	2,500
14. Maristah ..	3,980	22. 'Ain Sumḳanîyah	2,815
15. Ḳal'at Niḥa ..	3,815	23. Deir ul-Ḳamar ..	2,540
16. 'Ain Ḥalḳûm ..	4,115	24. Bshattafîn ..	1,350
17. Nebi Ayyûb ..	4,370	25. Jisr ul-Ḳâḍi ..	640
18. Nebi us-Ṣâfi ..	4,370	26. 'Ainâb	2,340
19. Jazzîn	2,960	27. Shimlân	2,220
20. Bâthir	2,490		

Notes.

3. Naba' Ṣunnîn.—Previous determination (aneroid), 5,400, *Quarterly Statement*, July, 1892, p. 223.

4. Jebel Ṣunnîn.—Carte du Liban, 2,608 metres = 8,557 feet; Mansell, Admiralty Chart, 8,162. See also determination in *Quarterly Statement*, April, 1892, p. 149.

5. Jebel Kanîsah.—Carte du Liban, 2,030 metres = 6,660 feet; Mansell, 6,666 feet; map of Palestine Exploration Fund, 6,825.

8. Taumât Niḥa.—By the aneroid, the southern of the twin peaks is 75 feet, and the notch between the two is 525 feet lower than the northern peak. The map of the German Palestine Society gives, as the height of the north peak, 1,730 metres = 5,675 feet, and of the south peak, 1,850 metres = 6,070 feet, which latter is the height given by the Carte du Liban for both peaks. Mansell gives 5,620 feet for the northern.

9. Jabâ' ul-Ḥalâwi.—This must be distinguished from Jabâ' ush-Shûf, farther north, near Niḥa. The altitude here given is probably too high.

18. Nebi uṣ-Ṣâfi.—Mansell, 4,443. The wooded ridge on which Nebi uṣ-Ṣâfi is so picturesquely situated is called Jebel Taura. The highest point is to the north of the Nebi, and its altitude is about 4,475 feet.

19. Jazzîn.—Carte du Liban, 830 metres = 2,723 feet.

23. Deir ul-Ḳamar.—Carte du Liban, 900 metres = 2,952 feet, but

this probably refers to the top of the mountain above the town. Map of German Palestine Society, 868 metres = 2,851 feet.

25. Jisr ul-Ḳâḍi.—Map of German Palestine Society, 264 metres = 866 feet.

Beirût, Syria,
December 3rd, 1895.

NOTES ON THE "QUARTERLY STATEMENT."

By Lieut.-Colonel Conder, R.E., D.C.L.

Ophir. January, 1896, p. 3.—Those who seek Ophir in India, and in Africa, always seem to ignore the passage (Gen. x, 29) in which it is said to have been colonised by the Arab race, and is noticed with Hazarmaveth (*Ḥaḍramaut*), and Sheba (the Sabeans of Yemen). There can be little doubt that Ophir was in Yemen. Ophir was reached from Elath in the Red Sea (1 Kings ix, 28), and gold was brought thence, but there is no notice of ivory, apes, and peacocks coming from Ophir. They came from Tarshish (1 Kings x, 22), probably Tarsus in Asia Minor (Genesis x, 4). Gold is said to have been brought by Arab Kings to Solomon (2 Chron. ix, 14), as well as from Tarshish (2 Chron. ix, 21). It may, however, be asked, how gold came from Yemen if it does not now exist there. All that is known is that, in the Roman age, Yemen was remarkable for its wealth. The Arabs (Sabeans) invaded Abyssinia before the Christian era, and no doubt obtained gold thence. It is possible that the gold of Ophir, in Solomon's time, came from Abyssinia; but it must not be forgotten that the Tell Loh and Tell Amarna texts, show that gold was plentiful in West Asia between 2700 and 1400 B.C. It was found in Chaldea, in Asia Minor, and in Syria, but the source of this gold is unknown. The Egyptians obtained it in the Soudân about 2700 B.C., and the Akkadians took it thence in ships. As regards Tarshish, though there is reason to think that another place so named may have existed in Arabia (*see* Psalm lxxii, 10, Ezek. xxxviii, 13, 1 Kings xxii, 48, 2 Chron. xx, 36), most passages clearly connect it with Asia Minor (Genesis x, 4, 1 Kings x, 22, 2 Chron. ix, 21, Psalm xlviii, 7, Isaiah ii, 16, xiii, 1, 6, 10, 14, lx, 9, lxvi, 19, Jer. x, 9, Ezek. xxvii, 12, 25, Jonah i, 3, iv, 2). Nor is there any difficulty in placing Tarshish at Tarsus. The river Cydnus was navigable in the first century B.C., and such metals as gold, silver, and copper were sent from Asia Minor to Egypt in the fifteenth century B.C. The names of the elephant and ape are commonly said to be Indian (Tamil) terms; but they are also Egyptian :—

Hebrew.	Assyrian.	Greek.	Tamil.	Egyptian.	
Koph	—	*Kepos*	*Kapi*	*Kafi*	"ape."
Hab	*Habba*	—	*ibha*	*eb*	"elephant."

The Assyrians were trading with India at least as early as the ninth century B.C. (Black obelisk), and probably in Solomon's time. Apes were sent from Syria to Egypt in the fifteenth century B.C., and are represented on later Assyrian sculptures as coming from the East. This question is, however, distinct from that of Ophir. It may have received its gold from Abyssinia or India, but the place itself—like Sheba—was in the south of Arabia. The earliest notice of Arab traders on the Zambesi belongs to the second century A.D., and we know nothing of any Phœnician visits to the interior of Africa. The ruins of Zimbabwe in Mashonaland are usually attributed to the early Arabs. No Phœnician (or indeed any other) inscriptions have yet been found at these towers, built to protect the mines. It is remarkable that the peculiar ornamentation found on the Zimbabwe walls is exactly the same as that found east of Jordan at Khaurânee (*see* p. 34 of the January *Quarterly Statement*)—a building which seems to be early Arab, and not erected by Crusaders, whose style of architecture was quite different. The idea that Mashonaland was Sheba seems to have been brought by the Arabs, and from them adopted by the Portuguese, Dutch, and English ; but it is not supported by any known facts ; and the first African gold known to the ancients came from Upper Egypt and Abyssinia. I am not aware of anything which points to India having been a "consolidated State" in Solomon's time. When the Aryans entered North India—about 800 B.C., they found various native states existing ; and in no historic period is the whole of India known to have been a single empire, before the English made it one. The evidence of the alphabet seems to show clearly that the Sabeans of Yemen were trading with India perhaps as early as 600 B.C. The South Asoka alphabet is derived from the Sabean.

The Jerusalem Excavations.—The discovery of an older wall on the south-west hill, with pottery said to be Jewish, and masonry of a superior kind, is most valuable. But if this wall was repaired with "Roman column bases" (p. 13) it must have been visible in Roman times, and the later wall—founded on *débris*—is thus shown to be very late, and the view that it represents the Wall of Eudoxia (450 A.D.) is confirmed. It is desirable that drawings of these column bases should be published. They may belong to the Greco-Jewish, or Herodian periods, and the mouldings should be compared with those of the pillars of the tombs east of the Kidron. The fact that mortar is not used in the old walls, but is used in the later wall, is valuable. Mortar in Palestine has never been found in use earlier than the Roman period. The Tower and pavement found north of the wall seem to be Roman or Byzantine. The Byzantines used tesselated pavements, and the design (p. 18) possibly represents two crosses. While agreeing with Dr. Bliss that the wall now found is probably Jewish, I am not aware of any facts adduced by him to show (p. 14) that it "certainly ran down to Siloam." The masonry there found by Dr. Güthe was very clearly Byzantine, and would have belonged to the wall of Eudoxia. It seems to me highly urgent that another cutting should now be made, westward from a point north of Siloam. The north

and south line AB has shown us the line of the old wall, and the remains of houses, cellars, &c., within it. The important point to settle is where this old line crossed the Tyropœon; and this can be most cheaply and rapidly settled by a section CD running east and west.

The Sûr Bâhir Tombs, p. 22.—These masonry tombs resemble others described in the "Memoirs," which belong to the later Roman period.

The Temple.—The account given by Colonel Watson is apparently based on the materials furnished by Dr. T. Chaplin, published ten years ago in the *Quarterly Statements*. In preparing the plans of Herod's Temple, which I published in 1878 ("Tent Work in Palestine"), in 1879 ("Handbook to the Bible"), and in the Jerusalem volume of the "Memoirs," in 1884, I gave the levels and existing observations of the rock in detail, and placed the Temple on the Sakhrah rock. The levels given by Colonel Watson are practically the same. He admits that a 16-inch cubit would give better results than one of 18 inches. There is no reason to suppose that the Jewish cubit was 18 inches long. The measurements of the Siloam Tunnel, of the Temple masonry, and of the Galilean synagogues, all agree in giving a 16-inch cubit, which is the length assigned by Maimonides to this measure. The levels given by Colonel Watson are too low for the actual ones. Thus he places the Court of the Priests 2,431 feet above the Mediterranean. The rock is, however, known at 2,432 within this limit. The Women's Court he makes 2,416, but the rock occurs at 2,420 within this area. By using the smaller cubit I obtained the levels:—

Temple Floor	2,440
Court of Priests	2,432
„ Women	2,422

And these throughout agree with the actual levels.

Colonel Watson states that the measurements to the boundary of the Mountain of the House are given in the tract "Middoth." I am unable to find them there given, though I am aware that they occur in a much later Talmudic work. As Colonel Watson refers (p. 50) to the "ancient authorities" he may be able to explain the reference. It seems to me that the very interesting plan which he gives is substantially the same which I have published, and accords with the laborious studies of Dr. Chaplin, who kindly communicated to me his work in MS. in 1874 in Jerusalem, it seems well to refer readers of the *Quarterly Statement* to the above-mentioned works.

Samaritan Texts, p. 79.—I have already proposed to regard the text at Kurâwa as Samaritan, but as to that at Umm ez Zeinât, which is very peculiar, I still feel considerable doubts.

Corea, p. 79.—I was not aware that any writer had placed Archelais at this site before I suggested it. M. Clermont-Ganneau may, no doubt, be right in placing Corea at this ruin, but when considering the question in the "Memoirs" I was inclined to think that the site at Keriût is to be preferred. (*See* "Memoirs," vol. ii, for both sites.)

Text from Cæsarea, p. 87.—It is not stated which city so named out of several is intended.

Palmyra.—The work by Dr. W. Wright, advertised in the *Quarterly Statement*, is not only an interesting account of two adventurous journeys, but contains also much that is of archæological importance, especially the author's discovery of the seal of Tirhakah, the Nubian King of Egypt (700-670 B.C.), which may tend to confirm his record, stating that he drove back the Assyrians (probably under Sennacherib) beyond the Euphrates. It is, however, possible that the seal may have been brought to Palmyra after Zenobia's conquest of Egypt. Dr. Wright's conclusions are based on monumental as well as on literary statements, and will be generally accepted. I may perhaps be permitted to note a few points for consideration.

The miraculous picture at Saidnaya ("Our Lady") north of Damascus is probably the same which existed in the thirteenth century. By special treaty the Templars were allowed to collect the oil said to exude from the picture, and this oil is mentioned in inventories of relics in French churches.

The existence of legends of Solomon at Palmyra may be due to the colony of Jews who lived there as late as the twelfth century A.D. (Benjamin of Tudela).

On p. 169 there is an apparent mis-print as to the date of Justinian.

The attack on Bostra by the Crusaders, in 1184 A.D., was the only known attempt made by the Franks to conquer Bashan, which always remained subject to the Sultans of Damascus. The Franks only held the west part of the Jaulân, which they called Suethe (*Ard es Suweidah*), "the black land."

The Temple of Siah was no doubt erected in honour of Herod the Great, but it was consecrated to the Arab Sun God, Aumo, whose head was sculptured over the gate.

The horn, or *tantûr*, is, I believe, now little worn by Druze women. Like the blue eyes and tall figures of the race it betokens their Persian origin. The same horn was once worn by tribes on the Oxus. The Druze prophet, Hamzah, and his rebel disciple, ed Derâzi, both came from Persia. When expelled from Egypt, and settling on Hermon, they were probably accompanied by many Persian companions. The history of the Druzes, and of their religion, is described in "Heth and Moab," and in "Syrian Stone Lore."

NOTES BY PROFESSOR T. F. WRIGHT, PH.D.

I.—Nehemiah's Night Ride (ii, 12–15).

The aid which the recent excavations give us in understanding the night ride of Nehemiah is a strong proof of their utility. On this subject commentators have blundered down to the present time, but now we may feel safe. It may be well to point out the result of the work of Dr. Bliss so far as regards this hitherto insoluble problem.

The passage reads in revised form :—

> "And I arose in the night, I and some few men with me ; neither told I any man what God had put into my heart to do for Jerusalem : neither was there any beast with me, save the beast that I rode upon. And I went out by night by the valley gate, even toward the dragon's well, and to the dung gate, and viewed the walls of Jerusalem, which were broken down, and the gates thereof were consumed with fire. Then I went on to the fountain gate and to the king's pool : but there was no place for the beast that was under me to pass. Then went I up in the night by the brook, and viewed the wall ; and I turned back, and entered by the valley gate, and so returned."

Nehemiah, of course, was trying to ascertain the exact condition of things, in order to set forward the rebuilding of the wall. As he had approached the city by the northern road, he had no doubt gained some knowledge of the walls, except on the southern side. To see these, a special expedition was necessary, and he was obviously wise in making it secretly and maturing his plans before he spoke of them. The only question has been as to the locality of these gates, and a brief look at the attempts to place them may be useful.

In Schaff's "Lange," Professor Howard Crosby placed the valley gate south of Jaffa gate, made the Birket-es-Sultan to be the dragon's well, and took Nehemiah all round the city.

In the Cambridge Bible for Schools, Professor H. E. Ryle placed the valley gate where the Jaffa gate is now, and made it open on the Tyropœon, which he identified with Hinnom.

Professor E. W. E. Reuss, of Strasburg, also placed the valley gate where the Jaffa gate is now.

In "Buried Cities and Bible Countries," the Rev. George St. Clair says :—

> "The valley gate was at the head of the Tyropœon valley, and at the same time close to the valley of Hinnom. It could not be far from the present Jaffa gate. The dung gate came between the Jaffa gate and the south-west corner of the city."

I may also refer to his statements in the *Quarterly Statement* for January, 1888, when he placed the valley gate at David's, the dragon's well at the Virgin's Fountain, and the fountain gate inside the present wall. In the *Quarterly Statement* for April, 1889, he printed a map showing the valley gate where the Jaffa gate is now, the dung gate south-west of David's, or at David's, the fountain gate high up the Tyropœon, the king's pool higher yet, and the king's gardens west of Ophel. The Rev. W. F. Birch combatted all this, and Mr. St. Clair rejoined that "appeal to the spade is necessary."

That appeal having been made, it is seen at once that all the geographers have greatly erred, from being unable to see beyond the present gates. Let the plan in the *Quarterly Statement* for January, 1895, be consulted, and a new gate appears at once, leading directly into the valley of Hinnom. According to the common understanding, the three periods of construction shown at this gate represent the work of Hezekiah, Herod, and Eudocia Nehemiah was surveying work of Hezekiah, then in ruins. There he would naturally come out and turn eastward.

The dragon's well has not been found, but it is plain that water was not far off. A reservoir filled from a pool above by an intermittent flow would be so called, from the idea brought out in the uncovering of the pool of Bethesda, *Quarterly Statement*, 1888, p. 123. This well will not be ascertained until the water passages are more fully investigated. As to the LXX calling it the fig fountain, this is probably due to the similarity of the Hebrew words, but the place may well have been a place of figs. Compare 'Ain-et-Tin.

The dung gate is said in Nehemiah iii, 13, to have been about 1,000 cubits east of the valley gate. Turn to the plan in *Quarterly Statement* for October, 1895, and there it is called by Dr. Bliss a "small gate," and so placed as to lead directly to Tophet. With all previous and imaginary views the passage, Nehemiah iii, 13, is nonsense, but now it is perfectly verified.

The fountain gate seems also to have been found by Dr. Bliss. See October plan. It is at the south-eastern angle, close by much water, and leading to Bir Eyub ; the king's pool was Hezekiah's Siloam.

Beyond this Nehemiah could not ride, because the path was so obstructed with fallen stones. He, therefore, went on foot up the brook, that is, the Kedron, probably until he saw the Temple wall along its length ; and then he turned back and re-entered by the valley gate.

It may be of advantage to suggest that now the whole account of the rebuilding in chapter iii is quite plain. The account began at the sheep gate, where sheep were brought for the temple, went on northward, and so westward into the south, where we find mention of the valley gate, the dung gate 1,000 cubits east of it, "the gate of the fountain and the wall of the pool of Siloah, and the stairs that go down from the city of David, and the place over against the sepulchres of David, and the pool that was made, and the water gate, and the horse gate," until the sheep gate is reached again.

II.—The Kolonieh Inscription.

In the *Quarterly Statement* for January, 1887, Herr Schick gave an account of a tomb uncovered by him at Kolonieh having unusually elaborate frescoes on its ceiling and sides, with figures, cherubim supporting wreaths, in which are two Greek inscriptions, which he gives, and says that the Russian Archimandrite read the first as meaning "God and His anointed (Christ)," and the second as meaning "Lord, remember me," "the words of the malefactor on the cross."

The first is—

Εις Θεος και ο Χρισ(τ)ος αυτου

"one God and His Christ," as the Archimandrite may have said, and Herr Schick omitted "one."

The second, just as given, is—

ΩCZH
MNHCΘH
BAPωXIC

This, it seems, the Archimandrite read as from Luke xxiii, 42. He was clearly wrong, yet I do not find that any other came to Herr Schick's rescue in a subsequent number. Thus, so far as I know, the very erroneous reading stands unchallenged and uncorrected. Respect for authority may have brought this about, but on general grounds it is obviously well that every newly-discovered inscription should be brought, if possible, to a solution which is not open to question at first sight.

In order to obtain, if not already given elsewhere, a final interpretation of this inscription, let me give what seems to me to have been intended:—

Ὡς ζῇ
Μνησθῇ
Βαρῶχις

"As Barochis lived, let him be remembered." We might perhaps understand the sense as, "Let it be remembered how Barochis lived." Or we may read, "That he may live, let Barochis be remembered," that is, as we say, "may he live in memory."

The proper name presents a problem of its own. It is not Βαρούχος (Baruch), nor is it Βαραχίας (Barachias). It may have been intended for the former, or it may be a feminine form, but I am inclined to think that, in copying the inscription, Herr Schick may have made out the last word imperfectly. It would seem idle to trace to any historical character this name, Baruch, so common on account of its meaning of "blessed."

Cambridge,
Mass., U.S.A.

THE ROUTE OF THE EXODUS.

By Captain A. E. Haynes, R.E.

Introductory.—Some ten years have passed away since the pages of the Palestine Exploration Fund *Quarterly Statements* contained anything of importance on the subject of the Exodus, and those ten years have been the most favourable period for the accumulation of knowledge on one of the most interesting periods of Israel's history. It is a remarkable fact that, notwithstanding our position in Egypt, and the ease whereby that position could have been utilised during the past ten years for recording once and for all the topography of the desert of the Wanderings, little or nothing has been done in that direction; and yet all the while many of the most remarkable intellects of our own and of other countries have been concentrated on the elucidation of the ancient history of the Jews, of which history the story of the Exodus forms a most important part. It is the purpose of this paper to place before the reader the present position of this subject.

Geographical.—It may be first necessary to epitomise our geographical and topographical knowledge of the area involved. This area is the country between the Isthmus of Suez and the Isthmus of Akaba. We hear so much of the former that the latter escapes general notice. The former is about 70 miles wide, the latter 125 miles. As the former is the natural boundary of Africa, so the latter is the natural boundary of Asia; and between the two lies the desert of Arabia Petræa. This district, situated between the opposing continents — Asia and Africa — is one whereon their boundaries, as at the present time, have never arrived at exact definition. As preponderance of political power fell alternately to Asia and Africa, the common boundary of the two continents coincided for the time being with that isthmus which forms the natural boundary of the temporarily weaker side. This "Tom Tiddler's ground" offered itself, therefore, naturally as a suitable and temporary refuge for the clans of Israel while they prepared, after the Exodus from Egypt, for their subsequent descent upon Palestine. This district is some 150 to 200 miles across, and 250 miles from the Mediterranean Sea to the southern extremity of the peninsula.

Considering the western boundary of this district first, we find that the Isthmus of Suez consists of two portions: the northern portion, from Ismailia and Wady Tumeilat northward to the Mediterranean Sea, is a portion of Egypt Proper; the remaining portion to the south is desert. This distinction is of particular importance, for as Egypt in ancient times consisted of that country irrigated by the Nile, the boundaries of which were the surrounding deserts, so all roads into Egypt made straight for this cultivated area at its nearest point, consistent with there being

sufficient watering-places on the direct route through the surrounding desert. Thus when we speak of three ancient roads entering Egypt from Asia—the coast road or "the way of the Philistines," the "way of Shur" from the Negeb to Egypt, and the Hajj road or "the way of the wilderness towards the Red Sea"—we refer to roads making for the narrow eastern frontier of cultivated Egypt, a frontier about 30 or 40 miles long from north to south, the front of which was protected by the Shur, the wall, or fortifications, of Egypt. The southern portion of the isthmus is a desert district, the condition of which in the time of the Exodus we know very little of. Some authorities say that the present Gulf of Suez extended in those days to the Bitter Lakes; others say that there is no reason to suppose that it extended further to the north than its present boundaries. It seems, however, probable that if the Gulf of Suez did not extend further to the north than it does at present, the Bitter Lakes existed in ancient days in the form of an irregular, and more or less impassable, barrier of salt water and marsh stretching from the neighbourhood of Suez to that of Ismailia. If such were the case, it is probable that such lakes would, with the Gulfs of Suez and Akaba, be included in the term "Yam Suph."

Turning now to the eastern boundary we find a somewhat similar condition of affairs. There are two portions: the northern portion, the south of Palestine, an agricultural and arable country, extending southwards to about 30° 20′ north latitude. South of this and as far as the Gulf of Akaba, a distance of 50 or 60 miles, the country is desert and incapable of supporting a settled population. Rounding the head of the Gulf of Akaba, the Arabian trade route, similarly to the Hajj route of to-day, struck across the desert—by the way of "the Wilderness towards the Red Sea"—to Egypt, or came northwards to Palestine. This district round the head of the Gulf of Akaba was normally in the power of the Arabian peoples; and only rarely, when the power of Palestine was going through a period of abnormal prosperity, did it reach to Akaba.[1]

Having considered the two isthmuses, let us now examine the intervening district of Arabia Petræa. We find it consists of three well-marked portions: the northern district of the sand hills; the southern mountainous district; and the central limestone plateau of Et-Tîh. These divisions may be very shortly described in detail.

The Sand-Hill Area.—This is the district of shifting sand-dunes; it skirts the coast of the Mediterranean Sea, and extends some 20 to 40 miles inland. North-east and east of Ismailia it is only kept from increasing by Jebel Maghara and Rahah; and up to these mountains the sand-dunes have surged until the hills have in parts lost their lower outlines, and the watercourses descending from them are cut across and barred by a wall of sand. Although in ancient times this district was clearly a desert one, it is probable that in the ages that have elapsed since the Exodus, its

[1] Robinson, "Biblical Researches," ed. 2, 1856, i, 177 f.; Palmer, "Desert of the Exodus," p. 284 f.

character has intensified in that respect ; for the constantly moving sands eat away all attempts at growth, and at the little oases here and there one may see palm trees with their trunks half buried in the sand which has only to wait a little to engulf and kill all herbage, in its all-devouring progress.

The Mountainous District of the Peninsula.—A glance at the map of this district, constructed by the Ordnance survey some twenty years ago, shows it at once as an essentially mountainous country, where clusters of sandstone bluffs and granite peaks divide the space between them, almost to the exclusion of level standing ground. Tortuous valleys wind their devious course among the mountains, and in these, a few Bedouin maintain a precarious existence, depending chiefly on their privilege of conducting pilgrims to the Convent of Mount Sinai. This district, which was called "Mafka" by the Egyptians, was the seat of one of their mining settlements. It is separated from the Plateau of Et-Tîh by a sharp declivity some 1,000 feet high, formed by the outcrop of the strata which compose the Tîh and which are tilted upwards towards the south.

The Plateau of Et-Tîh.—This district is the larger division of Arabia Petræa, and consists of about 30,000 square miles. The plateau rises to a height of 4,000 feet at its southern extremity, and slopes down gently towards the north, until it is lost in the sandy dunes fringing the Mediterranean coast. It consists of one vast plain, broken in places by mountain ranges, of which the principal are : Jebel Rahah, Bodia, Maghara, Yeleg, Hillall, and Ihkrimm.

Traversing the plateau of the Tîh are to be found, at intervals, broad, shallow watercourses called *seils*. These are, in many cases, a hundred yards wide, and shrubs are to be found in them all the year round : after heavy rains the grass springs up in them, and there is good pasture for several weeks for camels, sheep, and goats. These *seils* are very slightly depressed below the general surface of the ground, and when the rain falls they present the appearance of broad rivers, a hundred yards across, and are from one to four feet deep. The beds of the larger *seils* are very uneven, and the water lies in the pot holes for some weeks after heavy rains. Generally in January and February there is plenty of rain over the Tîh—so much so that water for drinking, both for man and for herds, can be found every few miles in the plains and all over the hills. During November, December, and March, there are often dense mists, white fogs, and heavy dews, which saturate the shrubs with moisture, and even deposit moisture among the rocks, so that flocks do not require to go to water.[1]

Kadesh.—With the foregoing epitome we can construct a map with the characteristics of the country fairly portrayed. The position of Kadesh, which is now generally accepted as that discovered by Mr.

[1] Most of the foregoing description of Arabia Petræa is taken from Major-General Sir C. Warren's "Notes on the Desert of Arabia Petræa," published in the *Quarterly Statement* of 1887, pp. 38 to 46.

Rowlands, and described by Mr. Trumbull in his book "Kadesh-Barnea,"[1] is situated in the Negeb about 30° 30′ N., 34° 40′ E.[2] This position is of great importance. Professor Wellhausen says ("Israel and Judah,"[3] p. 21):—"If we eliminate from the historical narrative the long Sinaitic section . . . . the Wilderness of Kadesh becomes the locality of the preceding and subsequent events. It was during the sojourn of many years here, that the organisation of the nation, in any historical sense, took place. 'There He made for them statute and ordinance, and there He proved them,' as we read in Exodus xv, 25, in a dislocated poetical fragment. 'Judgment and trial,' 'Massa and Meribah,' point to Kadesh as the place referred to; there, at all events, is the scene of the narrative immediately following (Exodus xvii; Numbers xx), and doubtless also of Exodus xviii." Whether or not we can go with the Professor in his sweeping transposition of historical details in the Old Testament, his testimony is important as marking the importance of Kadesh—an importance well brought out by Mr. Trumbull in his book—in the history of the Exodus. Kadesh was in Canaan; and it was at Kadesh that the Exodus was made good. Until a base of operations was obtained in the Negeb nothing further could be done; and without it Israel must have been lost. A close examination of the accounts of the Negeb, especially that given by Trumbull, is calculated to inspire anyone with the belief that in the plan of the Exodus, Moses directed his march on Kadesh designedly, as the point *par excellence* where, remote from any organised power, and close at hand to, even on the border of Canaan, he might weld the people into a nation capable of entering on their inheritance. Trumbull says (p. 396): "They had left their homes with the promise of being led towards Canaan (Exodus iii, 7, 8, 15–17; iv, 29–31; vi, 2–8; xiv, 3–5, 11, 12)."

Sinai on the Tîh.—It thus seems probable that in the plan of the Exodus Moses meant to lead the people of Israel to Kadesh by the direct route across the plateau of the Tîh. As Moses had been told

[1] "Kadesh-Barnea," by H. Clay Trumbull, published at New York, by Scribner and Son, 1884.

[2] 'Ain Kadîs, a spring south of Beersheba. The objections to this view will be found detailed in Conder's "Handbook to the Bible," 3rd edition, pp. 249, 250; and in his "Bible and the East," p. 52, edition 1896, Blackwood. In the same work an attempt is made (pp. 43 to 50) to identify the route of the Exodus and the stations named. "Robinson (ii, 175, 194) placed Kadesh at 'Ain-el-Weibeh, 35 miles south of the Dead Sea, and 22 to 23 miles west of Mount Hor. The Rev. J. Rowlands, however, in 1842 (Williams' 'Holy City,' i, 464 ff.), identified it with 'Ain Kadîs, about 45 miles west of 'Ain-el-Weibeh, and 50 miles south of Beersheba. The site was lost for many years, till it was re-discovered by Trumbull in 1881 ('Kadesh-Barnea,' pp. 238–275), and the identification is now generally accepted." Driver, "International Critical Commentary, Deuteronomy," 1895, p. 6.

[3] "Sketch of the History of Israel and Judah," by Wellhausen, published in London, 1891; octavo.

(Exodus iii, 12) that the people of Israel were to serve God on Horeb when they had been brought forth out of Egypt, it seems a very natural inference that Mount Sinai was upon the desert of Et-Tîh on the way from Egypt to Kadesh. It may be said that *if* the mountain was *on the way*, the presence of Israel there could be little token to Moses that God had sent him, for they would be there in the ordinary course of things; but this argument avails little, for their stay there was prolonged beyond any ordinary course; there they served God; there they received the foundation of their polity and religion, and were in a great measure born into being as a nation. Also it is characteristic of the records of the interposition of God in the affairs of Israel, that such interposition was invariably incidental to the position in which, by the common course of events, the Israelites were placed. It is thus incumbent on us to look upon Mount Sinai, not as the framework of a series of inconsequent wonders and signs, designed to demonstrate the favour of God Almighty to the Jews, but rather as a mountain *on the way* of the Exodus, which henceforth became the undoubted Olympus of the Jews, because it was there they first worshipped God as one nation, and marked the manifestation of His favour towards them. This principle is very apparent in Holy Writ—the miracle is almost invariably incidental to the position; the position is not created as a framework for the miraculous.

Evidence of tradition in favour of the Peninsula site.—Thus the proposition of Mount Sinai being upon the desert of the Tîh, on the road from Egypt to the Negeb, naturally occurs from the foregoing—a proposition which in the light of modern criticism seems more and more likely to be established, and which it is the object of this paper to support. The greatest obstacle to any proposition of the sort is the vested interest of "authority" in the Mount Sinai of the Sinaitic Peninsula. It would seem that "authority" (one would except here Professor Sayce) goes solid for the Peninsula site; and "authority" in Biblical matters is very difficult to upset.[1] To any proposition of the above sort "authority" has only to say nothing and treat it with contempt, and in ten years' time, however well grounded it may be, it will be forgotten, and the dictionaries of the day will copy down the old errors with a light heart. "Authority," it would appear, takes up the position that tradition has said that Mount Sinai is somewhere in the Peninsula, and therefore Mount Sinai must be there. True, it may be pointed out that tradition is very indefinite on the subject, and that the evidence of such tradition lies nearer to our own age than to the time of the Exodus; that there is no evidence of earlier tradition to support it, while the

[1] It should be distinctly understood that "authority" here includes Wellhausen, "History of Israel," 1885, p. 430, and Kittel, "History of the Hebrews," 1895, vol. i, p. 232, and, in fact, most, if not all, "the critics," except perhaps Professor Sayce. They give their arguments and reasons for their belief, and a deference to "tradition," it must candidly be owned, does not appear to influence them overmuch in the question.

absence of any such evidence of tradition in Holy Writ or in other Jewish records points to its non-existence in the days when those records were penned. The "Encyclopædia Britannica"[1] says on this point: ". . . . the Biblical narrators who always speak of Sinai as if it were a single summit . . . . show that in their time there was no real tradition in the matter," *i.e.*, no tradition connecting Mount Sinai with the mountain clusters of the Peninsula. This matter has been argued frequently before, and it is not proposed to go further into it here; suffice it to insist that the evidence of tradition is insufficient to establish the Peninsula site.

Numbers xxxiii, 10.—Another argument in favour of the Peninsula site is found in Numbers xxxiii, 10, which details the encampment of the Israelites by the Red Sea after leaving Elim. This is a verse that cannot be explained away in this connection, except by the possibility that, after leaving Elim, the Israelites might have had to return to the Red Sea, owing, perhaps, to the failure of the waters on the route across the desert that they had first selected. Anyone familiar with the desert and the difficulty of obtaining water there in any quantity can easily understand such a countermarch. However, it would seem that the authority of Numbers xxxiii, 1–49, is not to be relied upon in its entirety. Kittel, on this point, in the translation of his "History of the Hebrews," vol. i,[2] p. 237, is made to say: "It is clear that Numbers xxxiii no longer gives us thoroughly reliable information respecting Israel's camping-grounds in the desert." Bacon, in his "Triple Tradition of the Exodus,"[3] assigns this portion of the chapter in question to "an addition to P. or JEDP, in the priestly style and sense—450–200 B.C.," and says in a note, p. 246:—"This is a late redactional colophon which may at some period of the text have served as a conclusion to the story of the wanderings. Unfortunately, its principal historical value, the supplying of gaps in the sources, as *e.g.*, P. in Exodus xii, supplied from vv. 3–5, is materially reduced by its artificial numerical scheme (40 stations for 40 years, *see* Analysis); for the list of authentic names has almost certainly been supplemented. Nevertheless, it may be reasonably inferred from v. 2 that an actual list of JE. attributed by the writer to Moses, underlies this chapter, and of this we have, no doubt, fragments in xxii, 12, 20, Deut. x, 6 f. (Deut. i, 1 ?), and Numbers xxi, 12–20."

There is a large amount of arguing in a circle on this and similar questions. Thus some demonstrate the fitness of Jebel Musa to represent Sinai because Midian lay behind it, on the west coast of the Gulf of Akaba; quite regardless of the fact that Midian is located on the west coast of this arm of the sea, *because* it fits in with the Peninsula site for Mount Sinai. Others argue that the Peninsula is the correct

[1] "Encyclopædia Britannica," 9th edition, vol. xxii, p. 89, article by Professor Albrecht Socin.

[2] Kittel's "History of the Hebrews," translated by J. Taylor, 1895.

[3] "The Triple Tradition of the Exodus," by B. W. Bacon, published at Hertford, U.S.A., 1894.

place because of Deut. i. 2, which infers that Israel passed Mount Seir on the way from Horeb to Kadesh. For they say that Mount Seir is the range of mountains east of the Arabah up which the Israelites would pass on their journey from the Peninsula to Canaan. But if you ask for an authority for placing Mount Seir east of the Arabah a sufficient reason cannot be found.

The common-sense prohibition of the Peninsula route, from the increased distance involved by it, seems to me to carry great weight. It would be as unreasonable for a man in a hurry to walk from St. James' Railway Station to St. James' Palace *viâ* Whitehall, as it would have been for the Israelites to take the Peninsula route for their journey through the desert to Canaan. To properly array all the many reasons against locating Mount Sinai in the Peninsula would require a lengthy paper to itself; here I can only endeavour to show that the site of Horeb lies elsewhere by indicating one more suitable.

Conditions of the Exodus.—In Trumbull's "Kadesh-Barnea," at the end of the book, there is a paper on the Exodus, which very lucidly lays down the conditions of the start of the Hebrews from Egypt. To most of this paper I cordially agree; but in one or two particulars it seems to me the case is not fully stated :—

(Firstly.) In his description of the three roads he makes the "road through the Wilderness towards the Red Sea" pass into Egypt at Shaloofi, north of Suez. I do not think such could have been its route in the olden time; but, instead of passing through Jebel Rahah by Wady Rah, it is probable that the trade-route would have followed the present Hajj route from Akaba only as far as the central plateau of the Tîh, branching off some 20 or 30 miles west of Nakhl to the north-west, passing near the south-west slopes of Jebel Yeleg and Maghara, and thence bending westwards to Wady Tumeilat. Such a road exists at the present day, and, until it enters the sand-hills which are accumulating east of Maghara, it is a good-enough road. Water exists on it at the wells of Mahada, about 30 miles from Ismailia; and caravans from Arabia would, by such a road, reach Egypt by the shortest line; and the goods, discharged at Tanis or in the Sethroitic nome, might thence have been circulated by the ordinary methods of the country.

(Secondly.) The name "Yam Suph" would very probably have been applied to the continuations of water and marsh which lay to the north of the present position of Suez. Hence, in seeking for a fitting site for the defeat of the Egyptian army at the Red Sea (or "Yam Suph"), it is not necessary to go far from the direct road from Wady Tumeilat into Asia; but any site near Lake Timsah or the Bitter Lakes, which should be otherwise suitable, will do.

Comparing the accounts of the Exodus in the various codes, of which the so-called "books of Moses" are mainly composed, and taking only as valid halting-places on the march those places which are mentioned

both in the JE. and the P. codes, I obtain the following authenticated itinerary of the Exodus as far as Kadesh :—

Departure from Egypt.
Defeat of Egyptians at Red Sea.
Marah.
Elim.
Rephidim.
Mount Sinai.
Kibroth-hattaavah.
Hazeroth.
Wilderness of Paran.
Kadesh.

An examination of the above reveals some symmetry in the arrangement, for there are three halting-places between the Red Sea and Sinai, and three halting-places between Sinai and Kadesh : we are thus reminded of Exodus xv, 22, which details the "three days' journey into the Wilderness of Shur," and of Numbers x, 33, which records the departure "from the Mount of the Lord three days' journey."

Mr. Bacon, in his "Triple Tradition of the Exodus," has analysed the account of the Exodus in greater detail than Canon Driver goes into ; and handles the matter in a somewhat freer style. The following Table gives an analysis of Bacon's division of the codes as far as the stations are concerned ; the "triple" tradition being the traditions of the three original codes—J., E., and P.—of which the Hexateuch is mainly composed. From these codes all later matter, added by way of explanation by the successive editors, has been excluded, and the data stand as they were transcribed from their original traditions or codes. Examining this Table we must remember—and all students strongly insist on this point—that while the *general* results are vouched for, the analysis is often of a fallible character, and the indications do not clearly indicate (as between E. and J., for instance) to what code some verses should be allotted :—

BACON'S "TRIPLE TRADITION OF THE EXODUS."

Itinerary of Exodus. Egypt to Kadesh.

J. circa 800 B.C.	E. circa 750 B.C.	P. circa 450 B.C.
Rameses—Succoth.	Start "by way of the Wilderness towards the Red Sea."	Rameses to Succoth.
Defeat of Egypt in sea.	Defeat of Egypt in sea.	Defeat of Egypt in sea.
Went three days into Wilderness of Shur.	Moves onward into Wilderness.	
(1st day) Marah.		Wilderness of Sin.
(2nd day) Elim.		
(3rd day) Massah.	Massah.	Rephidim.
	Meribah before the Rock of Horeb.	Wilderness of Sinai.
The Mount (Sinai).	The Mount (Horeb).	Mount Sinai.
Set forth three days' journey from Mount of Yahweh.	Rephidim (battle with Amalek).*	
Kibroth-hattaavah.	Taberah.	Wilderness of Paran.
Hazeroth.		
Meribah.	Kadesh.	Meribah (of Kadesh). Num. xx, 13.

* Mr. Bacon places this victory over the Amalekites at Rephidim *after* the visit of Israel to Mount Sinai.

Examining this Table we see three points common to each code, viz. : the Sea (Red ?), the Mount, and Kadesh the sanctuary. Between these points the accounts bear little resemblance. Thus it is possible clearly to recognise the grounds on which Wellhausen, in his "Sketch of the History of Israel and Judah," p. 4, shows his distrust of all detail, and sums up the story of the Exodus in the following words :—"After visiting Sinai the emigrants settled at Kadesh, eastwards from Goshen, in the southern borders of Palestine." A scepticism which may be laudable in an historian is not, however, necessary to the Bible student ; and if we amalgamate the data of the three codes in the foregoing Table we get an account of the Exodus, tolerably full in itself and very similar to the itinerary obtained above from Canon Driver's analysis.

Evidence of Topography.—Let us now see if the topography of the country involved agrees in any way with the journey, the authenticated data of which we have obtained above. The interest centres mainly about the roads and the mountains. Concerning the roads, Exodus xiii, 17–18, shows us that the Israelites, at starting, must have been handy to the road "of the Philistines," which probably entered Egypt at El Kantara ; otherwise, the observation of the nearness of the coast-road would be inappropriate, and a more direct road would have been by the road "from Shur" across the desert to the Negeb. This latter

road, which is probably identical with the one followed by Holland (described in the Palestine Exploration Fund *Quarterly Statement* for April, 1879, and for January, 1884), runs from the neighbourhood of Ismailia eastwards, past the wells of Mahada, across Jebel Maghara, and following the same line due east continues until it meets the road from Hebron and Beersheba in the Negeb. In the neighbourhood of Mahada this road divides, and another track runs south-east to Nakhl, forming what was very probably the "road of the Wilderness towards the Red Sea." This road leaves Jebel Maghara on its north, and, passing the chain of hill-country marked by the mountains Bodia, Smar, Rahah, Risheh, and Maghara, debouches into the Tîh Plateau close to, and to the south-west of Jebel Yeleg.

Whether or not this was the road marked out by Exodus xiii, 18, as the route of the Israelites, it seems in many ways very suitable to illustrate the Scriptural accounts, especially the evidence of the original "Triple tradition," as epitomised in the Table given above. Exactly halfway between Ismailia and Kadesh lies Jebel Yeleg, a mountain of most impressive dimensions, lying like a huge barnacle on the plateau of Et-Tîh. The modern name of this mountain approximates closely to the ancient Amalek, the prefix "Am" meaning "country of"; and as we know that this was the country of the desert foes of Israel (1 Samuel xv, 7),[1] and as the battle of Rephidim took place in the vicinity of Mount Sinai, the occurrence of the name of Amalek here is of interest. Taking the routes to and from Jebel Yeleg there are similar points of interest to remark:—On the road from Egypt to Jebel Yeleg we have, at the outset, the journey into the Wilderness of Shur, or Etham, east of Ismailia, along the "road of Shur," as far as the wells of Mahada, which are situated in a district called by the Arabs "Elloo." From here the next known waters are close to Jebel Yeleg, between that mountain and Jebel Maghara. Again, on the march eastwards from Yeleg the Israelites would have entered at once the Wilderness of Paran, *i.e.*, to say, if the identification of Paran with Nakhl, urged by Trumbull and others, is correct. The total distance from Jebel Yeleg to Kadesh would be about 100 miles, a distance which the Israelites, after their long stay and organisation at Mount Sinai, could well have accomplished in eleven days.

It is not sought to *prove* in any way that Jebel Yeleg is Mount Sinai, or that Elloo was Elim, or that this "way of the wilderness towards the Red Sea" was the actual route here laid down. It is quite possible that the actual Hajj route, from Nakhl to Shaloofi, through the mountains of Rahah by Wady Rah, was followed by the Israelites; and there are other mountains on the Tîh besides Jebel Yeleg which might be the Mount of God. In our present want of accurate knowledge of this portion of the country, it would be idle to attempt any actual identification. All that

[1] The reading of Telaim, a place in the Negeb, for the Havilah of the Authorised Version (1 Samuel xv, 4) is given by Wellhausen, *vide* "Variorum Teachers' Bible."

is desired is to show the fitness of the country to illustrate the journey of the Exodus, especially since doubts have been thrown by scholars on the itinerary in Numbers xxxiii. In many ways this district seems specially fitted for the Olympus of the Jews. Situated some 100 miles odd from Beersheba, it is a suitable site for the "Mount of the Lord" in the "land of Moriah" (Gen. xxii). Such a position would also be suitable to the account of Moses' connection with the Midianites or Kenites; for, like the Amalekites, these were doubtless nomadic peoples, and, like the Bedouin of the Tîh at the present day, had their corn-grounds in the Negeb, although the desert was *their country*.

Then, with respect to Deut. i, 2, which places Mount Seir in the path of the Israelites from Horeb to Kadesh-Barnea, there are not wanting indications that "authority" may have to give way, even in its location of Mount Seir; and that in the Bible maps of the future, this district will have to be placed on the west instead of the east of the Arabah, coincident with the southern portion of the Negeb.

Conclusion.—The above indications of the fitness of the plateau of Et-Tîh to illustrate the story of the Exodus might be developed at great length, and supplemented by many allusions to the text of the Hexateuch; but such would be to trespass on the space of the *Quarterly Statement* at too great a length. All that has been attempted here is to make good the case for urgency in the survey of the Tîh. This is a district which for thousands of years has been the centre of the known world; and now, though within an eight days' trip of England, it remains, as it has always remained, a very Holy of Holies of untrodden sanctity. A perusal of Mr. Holland's description of his journey through it will show that the country teems with interest; no great difficulty should exist in mapping the area north of the Hajj route in one cold season; while the opportunity that our presence in Egypt affords us of easily overcoming the opposition of the Bedouin is one which, though it exists to-day, may soon pass away.

Anyhow, there is no time like the present. The work calls loudly for execution, and promises great rewards; while the only good reason why it should not be undertaken by a Society like the Palestine Exploration Fund, is the fact that the Survey would be of inestimable value to the Government of Egypt; and this, indeed, is no figure of speech; for the work would be of economic value to Egypt and Syria, as indicating the line for the railway that shall in the future unite the two continents of Asia and Africa; and it would be strategically of value to the guardians of the Land of the Nile, for the time appears to be approaching when the stability of the Egyptian Government will secure to it a wider sphere of influence and power than it at present possesses.

January 10th, 1896.

THE SEASON OF CALEB'S RECONNAISSANCE.

By Captain A. E. Haynes, R.E.

Readers of the Palestine Exploration Fund *Quarterly Statement* may have remarked a passage in the Variorum Bible (Teachers' Edition),[1] which is, I think, not altogether beyond question. The passage is in the Historical Epitome, and details the march from Mount Sinai for the Promised Land; it runs thus:—"The March.—In the 14th month after the Exodus, the Covenant-nation leaves Sinai for Canaan (the usual 11 days' journey occupy four months, Deut. i, 2; Numbers x, 11, with xiii, 20), and encamps in the wilderness of Paran." There are two statements in this passage, either of which appears to be due to some preconceived notion, such as the Bible narrative does not give colour for; they are:—

(1) That the journey from Horeb to Kadesh-Barnea *usually* took 11 days.
(2) That in the case of the Exodus it took four months.

The statement (1), which is born of the distance between the district of Jebl Musa in the Sinaitic Peninsula and district to which Kadesh is generally assigned, is founded on Deut. i, 2. It is well known, however, that the word *journey* in this verse is inserted by the translators; the verse itself rather signifying that in this particular journey of the Exodus, the time occupied in the journey from Horeb to Kadesh-Barnea was 11 days. This verse, which might mean either that 11 days, exclusive of halts, were occupied in the journey, or that the journey took 11 days in all, can be supported by other data given in the scriptural narrative. This support, which has been strengthened by recent analytical researches of scholars, would require a special paper for its examination, and cannot be dealt with here; suffice it to say here that 11 days may be assumed to be the minimum time occupied by the Israelites in going from Horeb to Kadesh-Barnea.

When we come to statement (2) we find an allowance of four months given for the above journey in order to fit in with Numbers xiii, 20, which, following on the orders given by Moses to the spies, states that "the time was the time of the first-ripe grapes." It appears that there is but little warrant for this large allowance of time for the journey; for the Calendar which is published in the same edition of the Variorum

[1] "The Variorum Teachers' Edition of the Holy Bible" (printed by Eyre and Spottiswoode, 1880) with which is incorporated the "Aids to the Student of the Holy Bible." On p. 86 of the "Aids," the words given above are found.

Bible gives data of the seasons that fit in with much greater accuracy with the minimum time of 11 days given in Deut. i, 2.

Numbers x, 11, gives the date that the Israelites started from Mount Sinai as the 20th day of Zif, the second month of the Jewish year. If we take the minimum allowance for the time of the return of the spies, viz. :—11 days for the journey from Horeb to Kadesh-Barnea, and 40 days for the duration of the reconnaissance (Numbers xiii, 25)—we reach the date of the 12th of Tammuz. On the other hand, if we allow four months for the journey, and forty days for the reconnaissance, the spies would not have returned until the beginning of the month of Bul.

Now Numbers xiii, 23, states that the spies, on their return, brought from the Valley of Eshcol a cluster of grapes which they bore between two on a staff ; and they brought of the pomegranates and the figs. A reference to the Calendar will show that the earlier date of Tammuz is much more suitable to this narrative than the month of Bul. In the former month we are told that various fruits are ripe (in the previous month, Sivan, the grapes begin to ripen), and the country becomes parched and dry, the Bedouin being driven from the valleys to feed their flocks on the mountain pastures. In the month Bul, on the other hand, ploughing and seed-time would have commenced, and the rains be well begun, while the grapes would have entirely disappeared from the greater part of the country. True we are told that on the hills the seasons are about a month later than those given in the Calendar, but then the seasons in the valleys are stated to have been one and a half months earlier, and we are told the grapes came from the *valley* of Eshcol.

Again, we have the report of the spies (Numbers xiii, 27), "the land floweth with milk and honey." Honey, we are told in the Calendar, is collected in the months of Sivan and Tammuz, in the Jordan Valley ; whereas after the latter month the country is parched and dry, and milk would be by no means plentiful.

December 22*nd*, 1895.

REMARKS ON THE DESERTS OF THE HOLY LAND.

By J. G. O. Tepper, F.L.S.

In reading some of the back numbers of the *Quarterly Statement*, I find that the writers disagree as to the route taken by the Israelites ; one of the chief objections to particular ones being, that such a tract could not have furnished sustenance for man and beast.

This objection would be a very conclusive one, if it were not based on the assumption that those deserts (Tih, &c.) were then very like what they appear now to be, viz., devoid of vegetation and water. This, however, is by no means quite sure. Australia, notably the drier portions, affords a very striking analogy, in my opinion, how a fair,

even rich country, is by injudicious denudation of its perennial, woody vegetation, and extinction of its native fauna, gradually converted (by a handful of short-sighted people) into just such deserts as those in question, not even excluding the Sahara.

It is nearly half a century since I first knew and enjoyed this country. Ever since early boyhood I have observed and studied its nature and characteristics in every direction, from the standpoints of a mere lover of plants and animals, amateur sportsman, farmer, trader, &c., and will sum up my observations in a few words. What was then, and till within some 20 years, a beautiful garden in many parts, or else fair or rich fields, is now degenerated largely into real desert, yielding little or no crops, or grass, simply through rendering all equally bare of shrubs and trees. The same amount of rain may now fall, as then; the same alternation of moister and drier seasons occur, but it has no longer the same effect. The loose, rich surface soil has become exhausted by cropping, depasturing, and burning over, and has assumed a hard, stone-like consistency, becoming exceedingly hot and impervious in summer. The rain descending thereon cannot enter now as then, and flows off rapidly, carrying with it more and more of the little remaining fertility to sea or salt swamp. Unsavoury weeds form the main vegetation; rabbits, locusts, &c., complete the work initiated by man in his endeavour to get all he could, and as quickly as he could. In a few decades, large regions will, undoubtedly, present the same aspect as the Old World deserts, which yet were at one time smiling landscapes, peopled by innumerable small life, and yielding to the early settlers rich, or at least fair, returns. Just in a similar manner, I opine, the Old World deserts were produced; probably the forty years' wanderings of the Israelites were the very cause of those regions becoming what they are now, and have been ever since. No sane man can imagine that large and populous cities were established in hot, glowing, treeless wastes. Man made them so, no doubt, in his ignorance of God's eternal laws, and in no time so quickly as now, under the pretence of progress and science.

The only known natural way in which solar energy is arrested and converted into fertility of soil, is by means of *living* vegetation, notably the woody and perennial. Man's ways are only means of exhausting, transferring, stimulating, or preserving the original stock locally, he cannot create fertility as plants do. Hence, everywhere in hot, dry countries, he converts the paradise into desert, and calls it cultivating the ground. Why? Concentrated wholly upon his own small interest, he loses sight of the large interests of nature, of which he is a part, but not its God. History repeats itself.

ON THE STRUCTURE OF THE TABERNACLE.

By W. Bryman Ridges, Esq.

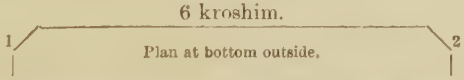
The Tabernacle was not built of upright single boards. Such a building, over 40 feet high, would not stand itself, hence the need of ropes to hold it up, as universally depicted. The translation of Exodus xxvi, 15, is misleading. The word "boards" is "kroshim," pl. of keresh, while the words "acacia wood[s]," should be "acacia boards," pl. Thus it should read :—

"Thou shalt make the kroshim for the Tabernacle of acacia boards upright." Verse 17 : "two *arms* (yodouth, not tenons) shall there be in each board *sloping* (mshoolvouth) one to its other," thus :—

Verse 19 : "two sockets under each one keresh for its two *arms*, and underneath each one keresh for its two *arms* two sockets." The root of keresh signifies twins or something double. Hence the use of the *pl.* acacia boards (which the Revisers, failing to comprehend, translated in the singular "wood," to make sense as they thought), and the *two* arms, reading the *two* sockets. Otherwise, why the two sockets or the five bars, hitherto a puzzle? Moreover, the bars were not round, but square. Thus verse 28 reads : "And the inside bar (or bolt, beriach) at the *divide* shall be *bolting* from end to end."

Most marvellous was the construction of the "hinder part westward" of six kroshim and corner kroshim, hitherto a complete mystery. Verse 23 : "And two kroshim shalt thou make for the corners (mkootsouth, *cut out*, Ezek. xlvi, 21, 22) at its shanks, and together whole shall they be upon its *head* into one and the same housing band."

Thus—



These corner kroshim fitted perfectly at top and bottom, and to do this the boards must slope at one particular angle. This is found by the 48th Prop., "Euclid," Book 1, which gives the solution, and forms the key (marvellous as it appears) to the construction of the Tabernacle. By this we know the exact width or opening between the boards at bottom. The Tabernacle thus constructed, and only thus constructed, would hold together firmly and without the necessity of ropes, found only in the imagination, and *not* in the narrative.

Again, each separate kroshim stood independently on its two silver sockets, as required by the narrative.

I might add that Dr. J. S. Mabie has constructed a magnificent model on above plans, proving their practicability, and strength, and the perfection worthy of their Divine Author.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT JERUSALEM IN THE YEAR 1891.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest, as usual, are in the winter, and the lowest in the summer months; the maximum for the year was 27·737 inches, in December, and the next in order, 27·619 inches, in November. The highest reading in the preceding 30 years, viz., 1861 to 1890 inclusive, was 27·816 inches, in December, 1879, and the next in order, 27·800 inches, in November, 1870.

In column 2 the lowest reading in each month is shown; the minimum for the year was 27·025 inches, in February, and the next in order, 27·096 inches, in January. The lowest reading in the preceding 30 years was 26·972 inches, in April, 1863, and again in February, 1865, and the next in order, 26·978 inches, in January, 1887.

The range of readings in the year was 0·712 inch. The largest range in the preceding 30 years was 0·742 inch, in 1876; and the smallest was 0·491 inch, in 1883.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest, 0·174 inch, was in August, and the next in order, 0·178 inch, in October; and the largest, 0·549 inch, in February, and the next in order, 0·503 inch, in January. The mean monthly range for the year was 0·321 inch. The mean for the preceding 30 years was 0·309 inch.

The numbers in the 4th column show the mean monthly pressure of the atmosphere; the highest was 27·472 inches, in November, and the next in order, 27·463 inches, in December; the lowest was 27·268 inches, in July, and the next in order, 27·299 inches, in May. The mean yearly pressure was 27·382 inches. The highest mean yearly pressure in the preceding 30 years was 27·443 inches, in 1861, and the lowest, 27·359 inches, in 1890. The mean for the 30 years was 27·392 inches

The temperature of the air reached 90° on June 9th (in the preceding 9 years, the earliest day in the year the temperature was 90° was March 25th in the year 1888); there were 8 other days in June when the temperature was or exceeded 90°; in July there were 4 days; in August 13 days; and in September 2 days, the 4th and 22nd. In the preceding 9 years the latest day in the year this temperature reached 90° was October 23rd in the year 1887. The temperature reached or exceeded 90° on 28 days during the year. In the year 1882 the number of days of this high temperature was 28, and in 1887 was 73; the average of the 9 years was 44. The highest temperature in the year was 97° on both June 10th and August 8th. The highest in the preceding 9 years, 1882 to 1890, was 106°, in July, 1888.

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level of the Mediterranean Sea, open on all sides.

Weight of a cubic foot of air.	Wind. Relative proportions of.								Mean amount of cloud.	Rain.	
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		Number of days on which it fell.	Amount collected.
rs.											in.
02	2	5	2	2	0	10	2	8	7·3	16	10·23
01	2	8	1	0	0	6	3	8	4·8	11	6·22
92	1	6	4	4	0	4	8	4	4·6	9	3·38
83	1	6	4	6	0	1	6	6	4·3	5	0·25
75	0	7	1	5	3	4	8	3	4·4	3	0·35
70	4	3	3	0	0	1	10	9	0·7	0	0·00
66	5	4	0	0	0	5	4	13	0·4	0	0·00
65	3	1	2	2	0	6	4	13	0·9	0	0·00
72	5	2	0	0	0	0	6	17	2·2	0	0·00
76	4	5	2	5	0	5	1	9	3·3	3	0·40
87	1	5	3	3	1	5	4	8	4·0	6	2·80
98	2	4	1	0	0	7	10	7	6·7	15	11·09
83	sum. 30	sum. 56	sum. 23	sum. 27	sum. 4	sum. 54	sum. 66	sum. 105	3·6	sum. 68	sum. 34·72
9	20	21	22	23	24	25	26	27	28	29	30

The temperature of the air was as low as 30°·0 on February 25th, and again on December 26th. In January it was at or below 32° on 2 nights, and as low or lower than 40° on 13 other nights. In the months of February, March, and December it was at or below 32° on 2, 1, and 2 nights respectively, and as low or lower than 40° on 21, 5, and 6 other nights respectively. Thus the temperature was as low or lower than 40° on 52 nights during the year. In the year 1885 the number of nights of this low temperature was 23, and in 1886 was 97; the average for the 9 years was 52. The lowest temperature in the preceding 9 years was 26°·5, in January, 1890.

The highest temperature of the air in each month is shown in column 5. In February it was 60°·0, being 7°·2 below the mean of the nine high day temperatures in February in the preceding 9 years. The high day temperature was above its average in January, March, April, June, November, and December, and below in the other months. The mean for the year was 83°·7, being 0°·4 below the average of 9 years. The highest in the year was 97°, in both June and August.

The lowest temperature of the air in each month is shown in column 6. In both February and December it was 30°·0, being 4°·4 and 4°·1 respectively below their averages; in January it was 31°·5, or 0°·4 below its average; and in March 32°, or 1°·8 below its average; in the remaining months it was generally above. The mean for the year was 45°·5, being 1°·1 above the average of 9 years.

The range of temperature in each month is shown in column 7; the numbers vary from 29°·5 in January to 53° in March. In the months of May, September, and October the ranges were small, owing to the low high day and high night temperatures, being 8°·7, 7°·3, and 10°·8 respectively less than their averages. The mean range for the year was 38°·2, being 1°·5 less than the average of 9 years.

The range of temperature in the year was 67°·0. The largest in the preceding 9 years was 76°·5, in each of the years 1884, 1886, and 1888, and the smallest, 63°·5, in the year 1885.

The mean of all the high day temperatures in each month is shown in column 8. The lowest was 50°·5 in February, being 3°·5 lower than the average. The highest was 89°·6, in August, being 0°·4 below the average of 9 years, and the next in order 86°·8, in July. The mean for the year was 72°·1, being 0°·2 below the average of 9 years.

The mean of all the low night temperatures is shown in column 9. The lowest was 38°·2, in February, being 1°·9 lower than the average. The highest was 66°·9, in August, being 3°·0 higher than the average. The mean for the year was 53°·7, or 1°·3 above the average of 9 years.

In column 10 the mean daily range of temperature in each month is shown; the smallest was 10°·7, in January, and the next in order, 11°·0, in December; the greatest was 26°·4, in June, and the next in order 22°·7, in August. The mean for the year was 18°·4, being 1°·5 less than the average. The smallest ranges in the preceding 9 years were 9°·3, in January, 1883, and 9°·7, in December, 1890; the greatest were 33°·8,

in August, 1886, and 30°·1, in the same month of 1887. The smallest mean for the year was 17°·8 in 1883, and the greatest, 24°·3, in 1886.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 11 ; the lowest was 44°·4, in February ; and the next in order 45°·9, in January ; the highest was 78°·2, in August, and the next in order 76°·4, in July. The mean for the year was 62°·9, exceeding the average of 9 years by 0°·5. The lowest mean temperatures in the preceding 9 years were 39°·8, in January, 1890, and 42°·0, in December, 1886 ; the highest were 81°·2, in August, 1890 ; and 81°·1, in July, 1888. The highest mean for the year was 63°·7, in 1885, and the lowest, 60°·1, in 1886.

February was the coldest month of the year, by reference to columns 5 and 6 it will be seen that it was below the average both by day and night. The nights of March and December were cold, but from April to November they were generally above their average, particularly so in the month of May, and from July to October.

The numbers in the 12th column are the mean readings of a dry bulb thermometer. If those in column 12 be compared with those in column 11, it will be seen that those in column 12 are a little higher in every month, the difference of the means for the year being 3°·2. The mean difference between the mean temperature of the air and that at 9 a.m. for the 9 years was 3°·1.

For a few days in the winter months the dry and wet-bulb thermometers read alike, or nearly so, but in the months from April to October the difference between the readings often exceeded 20°, and was as large as 26° on June 9th, and on August 5th and 8th.

In column 13 the mean monthly readings of the wet-bulb are shown ; the smallest differences between these and those of the dry bulb were 2°·0, in January, and 3°·4, in February ; the largest were 16°·7, in August, and 16°·6, in June. The mean for the year was 56°·4 ; that of the dry was 66°·1 ; the mean difference was 9°·7.

The numbers in column 14 are the temperature of the dew-point, or that of the temperature at which the air would be saturated by the quantity of vapour mixed with it ; the smallest differences between these numbers and those in column 12, were 4°·2, in January, and 7°·2 in February ; and the largest, 28°·2, in June, and 27°·8 in August. The mean temperature of the dew-point for the year was 48°·9 ; the mean for 9 years was 50°·2.

The numbers in column 15 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour ; the smallest was 0·241 inch, in February, and the largest, 0·484 inch, in September. The mean for the year was 0·354 inch ; the average of 9 years was 0·378 inch.

In column 16 the weight in grains of the water in a cubic foot of air is shown ; it was a little more than $2\frac{3}{4}$ grains in February, and more than 5 grains in both July and September. The mean for the year was 3 9 grains ; the average of 9 years was 4·2 grains.

In column 17 the additional quantity of water required to saturate a cubic foot of air is shown; it was less than one grain in both January and February, and more than 7 grains in August. The mean for the year was 3·7 grains; the average of 9 years was 3·3 grains.

The numbers in column 18 show the degree of humidity of the air, saturation being represented by 100; the largest numbers appear in January, February, March, November, and December; and the smallest from April to October; the smallest of all was 38 in June. The mean for the year was 56; that of the 9 years was 59.

The numbers in column 19 show the weight in grains of a cubic foot of air, under its mean atmospheric pressure, temperature, and humidity. The largest number was in January, decreasing month by month to the smallest in August, and then increasing to December. The mean for the year was 483 grains; that of the 9 years was 483 grains.

The most prevalent winds in January were S.W. and N.W., and the least prevalent wind was S.; in February the most prevalent were N.E. and N.W., and the least were S.E. and S.; in March the most prevalent were W. and N.E., and the least was S.; in April the most prevalent were N.E., S.E., W., and N.W., and the least was S.; in May the most prevalent were W. and N.E., and the least was N.; in June the most prevalent were W. and N.W., and the least were S.E. and S.; in July the most prevalent were N.W., N., and S.W., and the least were E., S.E., and S.; in August the most prevalent were N.W. and S.W., and the least was S.; in September the most prevalent was N.W., and the least were E., S.E., S., and S.W.; in October the most prevalent was N.W., and the least was S.; in November the most prevalent were N.W., N.E., and S.W., and the least were N. and S.; and in December the most prevalent winds were W., S.W., and N.W., and the least were S.E. and S. The most prevalent wind for the year was N.W., which occurred on 105 times, of which 17 were in September, and 13 in both July and August; and the least prevalent wind was S., which occurred on only 4 times during the year.

The total number of times of each wind are shown in the last line of columns 20 to 27; those winds less in number than the average of the preceding 9 years were—

N.	by	1
E.	„	10
S.E.	„	3
S.	„	8
N.W.	„	1

and those winds greater in number than the average of 9 years were—

N.E.	by	20
S.W.	„	4

The numbers in column 28 show the mean amount of cloud in each month; the month with the smallest amount was July, and the largest,

January. Of the cumulus or fine weather cloud there was only one instance; of the nimbus or rain cloud there were 28 instances, of which 7 were in January, 6 in February, and 5 in December, and only one instance from May to October; of the cirrus there were 18 instances; of the stratus 4 instances; of the cirro cumulus 84 instances; of the cumulus stratus 70 instances; of the cirro stratus 2 instances; and 148 instances of cloudless skies, of which 27 were in July, 24 in August, and 21 in June, and only 2 in January.

The largest fall of rain for the month in the year was 11·09 inches, in December, of which 3·32 inches fell on the 25th, 2·22 inches on the 24th, and 2 inches on the 17th. The next largest fall for the month was 10·23 inches, in January, of which 2·71 inches fell on the 26th, and 1·75 inch on the 25th. No rain fell from May 31st till October 26th, making a period of 147 consecutive days without rain. The total fall of rain for the year was 34·72 inches, being 9·49 inches above the average for 32 years, viz., 1861 to 1892. The number of days on which rain fell was 68, being 13 more than the average.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT TIBERIAS IN THE YEAR 1891.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; the highest appear in the winter, and the lowest in the summer months; the maximum for the year was 31·175 inches, in December, and the next in order 31·087 inches, in January.

In column 2 the lowest reading in each month is shown; the minimum for the year was 30·309 inches, in July; and the next in order 30·324 inches, in April.

The range of readings in the year was 0·866 inch. The range in the morning observations was 0·837 inch, being 0·125 inch greater than the range at Jerusalem.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest was 0·277 inch, in August, and the next in order 0·278 inch, in September. The largest was 0·683 inch, in February, and the next in order 0·675 inch, in April.

The numbers in columns 4 and 5 show the mean monthly reading of the barometer at 8 a.m. and 4 p.m.; and those in column 6 the lower reading at 4 p.m. than at 8 a.m.; the smallest difference between these two readings was 0·041 inch, in January, and the next in order 0·062 inch, in February; the largest was 0·106 inch, in June, and the next in order 0·096 inch, in April. In England in January the readings at 8 a.m. and 4 p.m. are practically the same; in all other months the reading

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et above the level of the Sea of Galilee, open on all sides.

m.				4 p.m.								Rain.	
Vapour.				Mean reading.			Vapour.						
Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Number of days on which rain fell.	Amount collected.
grs.	grs.	°	grs.	°	°	°	in.	grs.	grs.	°	grs.		in.
4·0	1·0	81	554	61·3	56·0	51·5	·380	4·2	1·8	70	546	15	7·72
3·8	1·1	77	554	60·4	54·6	49·5	·355	3·9	1·9	67	547	11	5·34
4·5	2·0	70	545	70·0	61·7	55·3	·438	4·8	3·2	60	536	7	1·91
5·2	3·1	62	534	80·8	66·5	56·8	·461	5·0	6·3	44	507	5	0·24
5·5	5·2	52	524	87·7	69·1	57·2	·470	5·0	8·9	36	514	3	0·22
6·9	4·8	59	521	95·3	73·2	60·0	·518	5·3	12·0	31	508	0	0·00
7·7	5·8	58	514	95·5	75·7	63·9	·596	6·2	11·3	35	505	0	0·00
8·0	5·5	59	514	96·7	76·2	64·7	·600	6·2	11·9	34	504	0	0·00
7·5	5·2	59	518	92·9	75·4	64·7	·611	6·4	9·8	42	510	0	0·00
6·1	4·7	56	526	86·8	71·1	61·0	·537	5·7	7·9	42	517	3	0·86
4·9	3·0	61	538	75·2	64·2	56·3	·454	4·9	4·5	52	531	4	0·78
4·3	1·5	77	550	61·9	59·1	54·3	·421	4·6	2·1	69	542	16	5·50
5·7	3·6	64	533	80·6	66·9	57·9	·487	5·2	6·8	48	522	sum. 64	sum. 22·57
19	20	21	22	23	24	25	26	27	28	29	30	31	32

at 4 p.m. is lower than at 8 a.m.; the greatest difference is in June, 0·025 inch. The mean for the year at Tiberias was 0·082 inch, being four times greater than in England.

The numbers in column 7 show the mean monthly pressure of the atmosphere; the highest was 30·830 inches, in December, and the next in order 30·795 inches, in January; the lowest was 30·453 inches, in July, and the next in order 30·506 inches, in August. The mean for the year was 30·668 inches.

The highest temperature of the air in each month is shown in column 8. The first day in the year the temperature reached 90° was April 2nd; and there were 8 other days in April when the temperature reached or exceeded 90°; in May 17 days; in June 27 days; in July, August, and September it reached or exceeded 90° on every day; in October 23 days; and in November 2 days; thus the temperature reached 90° on 170 days during the year. At Jerusalem the temperature did not reach 90° till June 9th, and there were only 28 days in the year on which the temperature was so high as 90°. At Tiberias the temperature was 101° on April 30th, it reached or exceeded 100° in May on 4 days; in June on 15 days; in July on 24 days; in August on 28 days; in September on 7 days; and in October on one day; thus on 80 days in the year the temperature reached or exceeded 100°. The highest temperature in the year at Tiberias was 110°, on June 9th; at Jerusalem the highest in the year was 97°, on June 10th and August 8th.

The lowest temperature of the air in each month is shown in column 9. The lowest in the year was 41°, on both January 30th and December 26th. The next lowest was 42°·0, on February 5th, 25th, and 26th, and on December 25th; and from February 27th till the 25th of December there was no temperature as low as 42°, the nearest approach being 45° on February 27th, and March 1st, 2nd, and 3rd. At Jerusalem the lowest in the year was 30°·0, on the nights of February 25th and December 26th; and there were 52 nights in the year when the temperature was as low or lower than 40°.

The yearly range of temperature was 69°·0; at Jerusalem it was 67°·0.

The range of temperature in each month is shown in column 10; and these numbers vary from 27° in February, to 49° in April.

In column 11 the mean of all the high day temperatures in each month is shown. The lowest was 63°·4 in February, being 12°·9 higher than that at Jerusalem; the next in order were 65°·7 in January, and 73°·9 in March; the highest was 101° in July, and the next in order were 100°·5 in August, and 98°·4 in June. At Jerusalem the lowest were 50°·5 in February, 51°·2 in January, and 55°·4 in December; the highest were 89°·6 in August, 86°·8 in July, and 86°·6 in June. The mean for the year at Tiberias was 85°·5; at Jerusalem it was 72°·1.

In column 12 the mean of all the low night temperatures in each month is shown; the lowest was 46°·9 in February, the next in order were 49°·9 in January, and 52°·3 in March; the highest was 76°·9 in

August, and the next in order were 76°·1 in July, and 73°·7 in September. At Jerusalem the lowest were 38°·2 in February, 40°·5 in January, and 42°·3 in March; the highest were 66°·9 in August, 66°·0 in July, and 62°·4 in September. At Tiberias the yearly value was 63°·0; at Jerusalem it was 53°·7.

In column 13 the mean daily range of temperature is shown in each month; the smallest was 15°·8 in January, and the next in order were 16°·5 in February, and 21°·6 in both March and November; the greatest was 27°·5 in June, and the next in order were 25°·1 in April, and 24°·9 in July. At Jerusalem the smallest were 10°·7 in January, 11°·0 in December, and 12°·3 in February. At Tiberias the mean daily range for the year was 22°·5; at Jerusalem it was 18°·4.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 14. The lowest was 55°·2 in February, and the next in order were 57°·8 in January, and 63°·1 in March; the highest was 88°·7 in August, and the next in order were 88°·6 in July, and 85°·4 in September. At Jerusalem the lowest temperatures were 44°·4 in February, 45°·9 in January, and 49°·9 in December; and the highest were 78°·2 in August, 76°·4 in July, and 73°·6 in September. At both Tiberias and Jerusalem the mean temperature increased month by month from the minimum in February to the maximum in August, then decreased month by month to the end of the year. At Tiberias the yearly value was 74°·3; at Jerusalem it was 62°·9.

The numbers in the 15th and 16th columns are the mean readings of a dry and wet-bulb thermometer, taken daily at 8 a.m. If those in column 15 be compared with those in column 14, it will be seen that those in column 15 were a little higher in March and May, and a little lower in all other months. The mean for the year was 72°·8, differing by 1°·5 from the mean of the year as determined by the use of the maximum and minimum thermometers; should this be the case in future years, the mean temperature may be approximately determined by a single reading of the thermometers taken daily at 8 a.m.

The numbers in the 17th column are the temperature of the dew point, or that temperature at which the air would be saturated by the quantity of vapour mixed with it; the smallest difference between these numbers and those in column 15 was 6°·1 in January; from April to November the smallest difference was 13°·7 in April, and the largest, 19°·3 in May.

The numbers in column 18 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·338 inch, in February, and the largest 0·758 inch, in August.

In column 19 the weight in grains of the water in a cubic foot of air is shown; it was less than 4 grains in February, and as large as 8 grains in August.

In column 20 the additional quantity of water required to saturate a

cubic foot of air is shown ; it was as small as one grain in January, and as large as $5\frac{3}{4}$ grains in July.

The numbers in column 21 show the degree of humidity of the air, saturation being represented by 100 ; the largest numbers appear from December to April, and the smallest from May to November, the smallest of all was 52 in May.

The numbers in column 22 show the weight in grains of a cubic foot of air, under the mean atmospheric pressure, temperature, and humidity of the air ; the largest numbers were in January and February, decreasing to the smallest in July and August, and then increasing to the end of the year.

In columns 23 and 24 are the mean readings of a dry and wet-bulb thermometer taken daily at 4 p.m. By comparing the numbers in column 15, with those in column 23, the increase of temperature from 8 a.m. to 4 p.m. is shown ; in February and December the increase was only 5°·3, and in June was as much as 13°·2.

In column 25 the temperature of the dew point at 4 p.m. is shown. By comparing these numbers with those in column 17, it will be seen that the temperature of the dew point in the months of January, February, March, November, and December was higher than that at 8 a.m. by 2°·2, 1°·4, 2°·1, 0°·7, and 2°·8 respectively, and lower than at 8 a.m. in the remaining months. The numbers in this column are smaller than those in column 23 by 9°·8 in January, increasing to 35°·3 in June, then decreasing to 10°·6 in December ; these differences between the temperature of the air and that of the dew point are very much larger than those at 8 a.m., in June and August it was more than twice as large.

Frequently in the months from May to August, and on one day in October, at 4 p.m., the reading of the dry-bulb thermometer exceeded that of the wet by 25° or more, and the temperature of the dew point was from 41° to 55° lower than the temperature of the air, as shown by the following table :—

Month and Day.	Reading of		Temperature of the Dew Point.	Temperature of Dew Point below Dry.
	Dry.	Wet.		
	°	°	°	°
April 30	99·0	73·0	57·9	41·1
May 2	99·0	71·0	54·8	44·2
3	99·0	70·0	53·2	45·8
4	99·0	70·0	53·2	45·8
5	99·0	67·0	48·4	50·6
6	96·0	70·0	54·7	41·3
19	95·0	70·0	55·0	40·0
June 8	107·0	75·0	58·0	49·0
9	107·0	71·0	51·9	55·1
10	105·0	76·0	60·3	44·7
11	102·0	74·0	58·3	43·7
21	101·0	75·0	60·2	40·8
22	101·0	75·0	60·2	40·8
23	101·0	75·0	60·2	40·8
July 12	101·0	72·0	55·5	45·5
13	103·0	71·0	53·1	49·9
14	105·0	71·0	52·6	52·4
15	103·0	75·0	59·3	43·7
Aug. 3	102·0	76·0	61·4	40·6
6	102·0	72·0	55·2	46·8
7	102·0	75·0	59·9	42·1
8	104·0	75·0	59·1	44·9
Oct. 22	93·0	67·0	51·1	41·9

In column 26 the elastic force of vapour is shown, and by comparing the values with those in the same month at 8 a.m., we find that in April it was smaller at 4 p.m. by 0·011 inch, increasing to 0·158 inch smaller in August, and larger than at 8 a.m. in the months of January, February, March, November, and December.

In column 27 the amount of water in a cubic foot of air is shown, and the amount was less than at 8 a.m. in every month from April to October.

In column 28 the amount of water required to saturate a cubic foot of air was as large as 12 grains in June, 11·9 grains in August, and 11·3 grains in July; and smaller than 2 grains in both January and February.

In column 29 the degree of humidity is shown; the driest months were from May to August, the value for these months varying from 31 in June to 36 in May.

In column 30 the weight of a cubic foot of air is shown; the smallest was 504 grains in August, and the largest 547 grains in February.

In column 31 are given the number of days of rain in each month; the largest was 16 in December. The total number in the year was 64. At Jerusalem rain fell on 68 days.

In column 32 the monthly fall of rain is given. The heaviest fall of

rain on one day in the months from January to April was 2·53 inches, on January 25th ; and the next in order was 1·06 inch on February 27th. No rain fell from May 30th till October 26th, making a period of 148 consecutive days without rain ; the fall of rain on December 25th was 1·15 inch. The heaviest monthly fall in the year was January, 7·72 inches, and the next in order December, 5·50 inches. The total fall of rain for the year was 22·57 inches. At Jerusalem the total fall for the year was 34·72 inches.

THE PALESTINE EXPLORATION FUND.

NOTES AND NEWS.

The Annual General Meeting of the Fund will be held on Tuesday, the 14th day of July, at 4 p.m., at the Royal Institution, Albemarle Street, W.

Lord Amherst of Hackney will preside, and the meeting will be addressed by: — Major-General Sir Charles Wilson, K.C.B., R.E.; Lieut.-Colonel Watson, C.M.G., R.E.; The Rev. William Wright, D.D.; and others.

Early application for tickets of admission should be made to the Acting Secretary.

The Committee deeply regret that as Dr. Bliss and Mr. Dickie were returning one evening to their camp an attack was made upon them, and Mr. Dickie received a stab in the shoulder, and had his arm broken. He was doing well when the last accounts were despatched, and, it is hoped, will soon recover. Dr. Bliss himself escaped injury.

Herr von Schick's elaborate report on the Church of the Ascension, the publication of which has been delayed owing to want of space, is in the printer's hands, and will appear in the October number of the *Quarterly Statement*.

Herr von Schick reports that, owing to the exceptionally heavy fall of rain during the past season, much water accumulated in the Birket es Sultan, and unfortunately a youth from Silwan and two Jewish boys were accidently drowned in it.

Dr. Post's important work on the "Flora of Syria" is in the press, and will probably be published towards the end of the year. It is the fruit of more than twenty years' laborious study and investigation, and will supply a want long felt by travellers and others interested in the botany of Palestine and Syria.

Dr. H. B. Waterman, Hon. Sec. for the Western States of North America, has been engaged to give six weeks' daily lectures upon the large Model of Palestine built upon the shore of Lake Chautauqua, in the State of New York.

THE STRICTEST ECONOMY IS EMPLOYED IN CARRYING ON THE EXCAVATIONS AT JERUSALEM, BUT THE EXPENSES ARE NECESSARILY GREAT, AND THERE IS VERY URGENT NEED OF FUNDS IN ORDER THAT THE WORK MAY BE CONTINUED WHILST THE OPPORTUNITY LASTS.

The Rev. Theodore E. Dowling reports that the Fifth Annual Course of Evening Lectures, under the auspices of the Jerusalem Association, was delivered on Saturdays during February and March in the Grand New Hotel and Howard's Hotel, Jerusalem. A fair attendance of tourists was thus secured, and the managers of both hotels heartily co-operated.

Mr. Ellis opened the course with a thoughtfully-written paper, illustrated by two diagrams, on "The South Wall of Jerusalem." The Rev. C. T. Wilson interested his small, though select, audience with his personal experiences of "The Fellahin." At the request of Bishop Blyth this lecture was repeated in the Bishop's drawing-room. Dr. Wheeler, always ready to help, delivered the third lecture on "The Jews in Jerusalem." Through the kindness of Mr. Lunn the Rev. Dr. Cunningham Geikie became responsible for the fourth lecture on "Glimpses of Palestine in the Past." The Jerusalem Association is indebted to the Messrs. Perowne for generous contributions on behalf of special lectures delivered to their travelling tourists. Dr. Bliss, on successive Saturdays, spoke on "Recent Excavations" and "The Mounds of Palestine." At the concluding lecture Dr. Chaplin presided, and his encouraging remarks were appreciated.

The collections this year were larger than on any previous occasion, and realised 1607·20 piastres.

TOURISTS are cordially invited to visit the Loan Collection of "Antiques" in the JERUSALEM ASSOCIATION ROOM of the Palestine Exploration Fund, opposite the Tower of David. Hours: 8 to 12, and 2 to 6. Maps of Palestine and Palestine Exploration Fund publications are kept for sale. Necessary information will be gladly given by the Rev. Theodore E. Dowling, *Hon. Sec.*

The Committee have to acknowledge with thanks the following donations to the Library of the Fund:—

"A Pilgrimage to Palestine, 1893–4." By Rev. James Smith, D.D. From the Author.

"Etudes d'Archéologie Orientale," tome ii, livraisons 6–11. From the Author, Professor Clermont-Ganneau.

"Die Stiftshütte der Tempel in Jerusalem und der Tempelplatz der Jetztzeit." By Conrad Schick. From the Author.

The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and other Bible Lands. A catalogue of Books in the Library is published in the July *Quarterly Statement*, 1893.

The following have kindly consented to act as Honorary Local Secretaries:—

Abergavenny.—Rev. Fred W. G. Whitfield, Vicar of
Ramsgate.—Rev. F. W. Carpenter, Harley Villa, Edith Road, in succession to the Rev. Charles Harris, removed to Appledore, Ashford.

Mr. George Armstrong's Raised Map of Palestine is on view at the office of the Fund. A circular giving full particulars about it will be sent on application to the Secretary.

The second edition of the new Collotype Print or Photo-relief from a specially prepared copy of the Raised Map of Palestine is sold out. A third edition has been prepared. Price to subscribers, 2*s.* 3*d.*; non-subscribers, 3*s.* 3*d.*, post free.

The print is on thin paper, measuring 20 inches by 28½ inches.

It having again been reported to the Executive Committee of the Palestine Exploration Fund that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers of any sort or kind in their employ, and that NONE OF THEIR WORKS ARE SOLD BY ANY ITINERANT AGENTS.

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., every week-day except Saturdays, when it closes at 2 p.m.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

The first portion of M. Clermont-Ganneau's work, "Archæological Researches in Palestine," is now ready, and being sent to subscribers.

Memo. for Subscribers to the Survey of Palestine.—In the original programme it was intended that the "Archæological Researches" of M. Clermont-Ganneau should be published in one volume, but the work increased so much since its commencement that the Committee found it necessary to arrange for

the publication of the whole in two volumes. Vol. II has been published in advance for the reasons stated in the prefatory note.

Vol. I treats of Jerusalem and neighbourhood, is well forward, and, when ready, will be sent out to the first 250 Subscribers. There will be no increase in the price of the work to Subscribers.

A third and revised edition of "Syrian Stone Lore," by Lieut.-Colonel Conder, R.E., is in the press, and will be ready shortly.

An important work by Lieut.-Colonel Conder, R.E., entitled, "The Latin Kingdom of Jerusalem"—1099 to 1292 A.D.—and describing the condition of Palestine under the Crusaders, is in the press. It is based on the chronicles and contemporary accounts, both Christian and Moslem, and on the information collected during the progress of the Survey, with descriptions of the scenes of the important events, and other information not to be found in previous histories of the Crusades. The whole will form an octavo volume of about 400 pages.

The "Irish Times" of the 15th April, referring to the work of the Fund, remarks: "It would be impossible in a passing word to describe all the curious discoveries that have been made upon this ancient and sacred site. Every day adds to them, and it is a hard task for expert scholars to weigh, expound, and apportion their importance. The Palestine Exploration Fund Committee have never published a more important *Quarterly Statement*. The archæological results obtained are in rich proportion to the sums that have been expended, and surely this is a time when the objects of the body should fully and generously be supported. No one can tell how long the privileges now enjoyed may last, and it is the duty of the whole Christian community to make the most of them. Any day a great discovery may be made transcending in consequence any that has previously been achieved. The old history of Jerusalem lies deep buried beneath the modern surface, and to reach it there must be deep digging. The work is necessarily costly but it is worth the doing."

Since the last *Quarterly Statement* was issued the Palestine Pilgrims' Text Society have published the following:—

Part 14 of Book III of Marino Sanuto's "Secrets for True Crusaders to Help Them to Recover the Holy Land, A.D. 1321." Translated by Aubrey Stewart, M.A. Geographical notes by Lieut.-Colonel Conder, R.E., with three maps.

"Burchard of Mount Sion (1280 A.D.)." Translated from the original Latin by Aubrey Stewart, M.A. With geographical notes by Lieut.-Colonel Conder.

"Jacques de Vitry (1180 A.D.)." Part of the Abbreviated History of Jerusalem. Translated from the original Latin by Aubrey Stewart, M.A.

To be followed by Bohaeddin's "Life of Saladin," which is now in the press.

A complete set of the Palestine Pilgrims' Text Translations in 12 volumes, bound in cloth; price, £10 10*s.*

Branch Associations of the Bible Society, all Sunday Schools within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The income of the Society, from March 24th, to June 22nd, 1892, was—from annual subscriptions and donations, including Local Societies, £270 18*s.* 1*d.*; from all sources—£510 1*s.* 5*d.* The expenditure during the same period was £641 7*s.* 6*d.* On June 23rd the balance in the Bank was £226 2*s.* 1*d.* The excavations at Jerusalem cost not less than £100 per month.

Subscribers are requested to note that the following cases for binding, casts, and slides can be had by application to the Assistant Secretary at the Office of the Fund:—

Cases for binding Herr Schumacher's "Jaulan," 1*s.* each.

Cases for binding the *Quarterly Statement*, 1*s* green or chocolate, 1*s* each.

Cases for binding "Abila," "Pella," and "Ajlun," in one volume, 1*s.* each.

Casts of the Tablet, with Cuneiform Inscription, found at Tell el Hesy, at a depth of 35 feet, in May, 1892, by Dr Bliss, Explorer to the Fund. It belongs to the general diplomatic correspondence carried on between Amenhotep III and IV and their agents in various Palestinian towns. Price 2*s.* 6*d.* each.

Casts of the Ancient Hebrew Weight brought by Dr Chaplin from Samaria, price 2*s.* 6*d.* each.

Casts of an Inscribed Weight or Bead from Palestine, forwarded by Professor Wright, Cambridge, Mass., U.S.A., price 1*s.* each.

Lantern slides of the Raised Map, the Moab Sarcophagi, and of the Bible places mentioned in the catalogue of photos and special list of slides.

In order to make up complete sets of the *Quarterly Statement* the Committee will be very glad to receive any of the back numbers.

While desiring to give publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

Subscribers who do not receive the *Quarterly Statement* regularly are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

The authorised lecturers for the Society are—

AMERICA.

Professor Theodore F. Wright, Ph.D., 42, Quincy Street, Cambridge, Mass., Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

(1) *The Building of Jerusalem.*
(2) *The Overthrow of Jerusalem.*
(3) *The Progress of the Palestine Exploration.*

ENGLAND.

The Rev. Thomas Harrison, F.R.G.S., The Vicarage, Appledore, Ashford, Kent. His subjects are as follows:—

(1) *Research and Discovery in the Holy Land.*
(2) *Bible Scenes in the Light of Modern Science.*
(3) *The Survey of Eastern Palestine.*
(4) *In the Track of the Israelites from Egypt to Canaan.*
(5) *The Jordan Valley, the Dead Sea, and the Cities of the Plain.*
(6) *The Recovery of Jerusalem*—(*Excavations in* 1894).
(7) *The Recovery of Lachish and the Hebrew Conquest of Palestine.*
(8) *Archæological Illustrations of the Bible.* (Specially adapted for Sunday School Teachers).

N.B.—All these Lectures are illustrated by specially prepared lantern slides.

The Rev. Charles Harris, M.A., F.R.G.S., Appledore, Ashford, Kent. (All Lectures illustrated by lantern slides). His subjects are as follows:—

(1) *Modern Discoveries in Palestine.*
(2) *Stories in Stone; or, New Light on the Old Testament.*
(3) *Underground Jerusalem; or, With the Explorer in* 1895.

Bible Stories from the Monuments, or Old Testament History in the Light of Modern Research:—

(4) A. *The Story of Joseph; or, Life in Ancient Egypt.*
(5) B. *The Story of Moses; or, Through the Desert to the Promised Land.*
(6) C. *The Story of Joshua; or, The Buried City of Lachish.*
(7) D. *The Story of Sennacherib; or Scenes of Assyrian Warfare.*
(8) E. *The Story of the Hittites; or, A Lost Nation Found.*

SCOTLAND.

The Rev. J. R. Macpherson, B.D., Kinnaird Manse, Inchture, N.B. His subjects are as follows:—

(1) *Excavations in Jerusalem*, 1868–70, 1894–5.
(2) *Lachish, a Mound of Buried Cities; with Comparative Illustrations from some Egyptian Tells.*
(3) *Recent Discoveries in Palestine—Lachish and Jerusalem.*
(4) *Exploration in Judea.*
(5) *Galilee and Samaria.*

(6) *Palestine in the Footsteps of our Lord.*
(7) *Mount Sinai and the Desert of the Wanderings.*
(8) *Palestine—its People, its Customs, and its Ruins.* (Lecture for Children.)

All illustrated with specially prepared lime-light lantern views.

The Rev. James Smith, B.D., St. George's-in-the-West Parish, Aberdeen. His subjects are as follows:—

(1) *The Palestine Exploration Fund.*
(2) *A Pilgrimage to Palestine.*
(3) *Jerusalem—Ancient and Modern.*
(4) *The Temple Area, as it now is.*
(5) *The Church of the Holy Sepulchre.*
(6) *A Visit to Bethlehem and Hebron.*
(7) *Jericho, Jordan, and the Dead Sea.*

The Rev. W. Burnet Thomson, Galashiels, N.B. His subjects are as follows:—

(1) *The City of the Great King; or Jerusalem and the Explorer.*
(2) *The Temple, the Sepulchre, and Calvary.*
(3) *Southern Palestine.*
(4) *Jerusalem to Damascus.*
(5) *Palestine and Jesus Christ (for children).*
(6) *The Bible and the Monuments. Discoveries in Ancient Land.*

All illustrated with lantern slides.

WALES.

The Rev. J. Llewelyn Thomas, M.A., Aberpergwm, Glynneath, South Wales. His subjects are as follows:—

(1) *Explorations in Judea.*
(2) *Research and Discovery in Samaria and Galilee.*
(3) *In Bible Lands; a Narrative of Personal Experiences.*
(4) *The Reconstruction of Jerusalem.*
(5) *Problems of Palestine.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

NINTH REPORT OF THE EXCAVATIONS AT JERUSALEM.

By F. J. Bliss, Ph.D.

It is my sad duty to begin this report with a chronicle of death. On March 29th our foreman, Yusif Abu Selim Khazin, died of pneumonia, after a week's illness. He was carried to the grave by our own workmen, and lies buried in the Protestant cemetery in Mount Zion, within a few yards of the spot where he had so faithfully superintended our excavations. Hardly had we begun to realise our great loss when another blow fell. On April 16th I had invited our Commissioner, Ibrahim Effendi, to meet at lunch, in our camp, Dr. Chaplin and other guests. We waited some time, and then sat down without him. In a few minutes came a messenger announcing that he had been found dead in his bed that morning. The doctor pronounced it aneurism of the heart. Only the day before he had been to the camp, in the best of spirits and apparently in good health. He had spent the evening with his family and had retired without complaining of any illness. He was buried in the cemetery outside St. Stephen's Gate.

Ibrahim Effendi was a member of that noble family of the Khaldi, who have lived in Jerusalem since the days of Khalia, their great ancestor. He was not much over fifty years of age, and for six years was Imperial Commissioner for the work of the Palestine Exploration Fund. At Tell-el-Hesy, by his wise and firm way in dealing with the Arabs during Dr. Petrie's season of work, he made it possible for us to live in the wilderness as safely as we might at home. Thrown together for companionship, we became warm friends, and I learned his character intimately. Its key-note was nobility. So great was his generosity that he usually gave away all he had. As to his scrupulous honesty, no one dared to question it. He was so frank that he always spoke out his opinion without regard of consequences. His mind was active and alert after new knowledge. Mingled with his interest in the excavations I think there was a regret that his lack of training in the subject prevented his seeing their full historical bearing. And yet the amount of miscellaneous information he had gathered from his wide intercourse with men was wonderful. Many a knotty problem of history and theology have we discussed together in our tents. His individuality, however, came out best in his practical philosophy of life, expressed in brief, witty sayings, quite *impromptu*, which have become recognised proverbs among my family and friends who understand the Arabic. Unfortunately, these epigrams necessarily lose much by translation. As a *raconteur* I have never known his equal, and his stock of stories was inexhaustible. He understood the dramatic possibilities of an anecdote, knew when to go

PLAN TO ILLUSTRATE Dr BLISS'S NINTH REPORT

The Detail in Black, from the Enlarged Ordnance Survey Plan. the Excavations in red

PALESTINE EXPLORATION FUND

Burj al Kibryt

PRESENT CITY WALL JERUSALEM

B.M. 2424·4

Watch Ho

Cistern

Cistern

Cistern

Cistern

Watch House

Cave

Drain

Drain

Drain

Drain

Pavement

Cistern

Scarp

Cistern

Scarp

Pavement

Cistern

Birkeh

Birkeh

Drain

B.M. 2479·7

Birkeh Cistern

Pavement

Mosaic

Cistern

Pavement

Cistern

Aqueduct

Drain

A B C D E F G H I J K L M N O P

2509 2499 2489 2479 2469 2459 2449 2439 2429 2419 2409 2399 2389 2379 2369 2359 2349 2339 2329 2319

Vincent Brooks, Day & Son lith

SCALE

Feet 100 0 100 200 300 400 500 Feet

into detail and when to stop. His personal bearing was dignified but charming, and I have known him to go out of his way to do a simple act of kindness.

As to his connection with our work, I have dwelt upon this so often in former reports that I need hardly say here that in him the Fund has lost a warm and valuable friend. This attitude he consistently maintained with a perfect loyalty to his Imperial Master. In large measure is it due to him that our work has gone so smoothly in Jerusalem. The trip across the Jordan could not have been accomplished successfully without him. He insisted on accompanying me on every detour to visit ruins, no matter how fatigued he might be. And while ready to assist in every way in the general work, he never attempted to enter into matters that belonged to my department. It was a great satisfaction, both to his family and to me, that Shauket Effendi, his son, has been nominated as his successor.

The name of Yusif Abu Selim is well known to readers of the *Quarterly*. He came from that sturdy Lebanon stock (I do not know whether to call it peasant or yeoman) that has produced most of the Syrians who are now taking so prominent a part in Egypt and elsewhere, as physicians, editors, lawyers, &c. Unfortunately for him, he had not the advantage of a thorough early education. For almost 20 years he was associated with my family. My late brother-in-law, the Rev. Gerald Fitzgerald Dale, of Zahleh, and the Rev. M. March, now of Tripoli, Syria, always felt that Yusif was a man to rely upon. Whatever he put his hand to he did well. He served these missionaries variously as cook, colporteur, school steward, and teacher. At times he would preach. When I was appointed to the work of the Fund, my first thought was that Yusif was the man to help me. And for five years he has been my helper in many ways. In managing the workmen he combined firmness with kindness, with the result of getting the very best out of them. He was strictly impartial, and I have heard him say: "I would dismiss my own brother if his work were not up to the mark." He was known to all the people of Siloam, where, as a peace-maker, he was the best possible missionary, and after a long, hard day of work, he would sometimes spend an hour with a sick man. With the landowners he showed tact and diplomacy, always leaving them good-natured when the bargain was closed. "Abu Selim is a magician," said one of them, "one can't resist him." In the organisation of an expedition he was in his element, showing true economy. But the quality of peculiar value to us was his remarkable archæological instinct. Several times his quick observation picked up a lost clue, or explained the connection of bits of walling, before I had made anything out of the matter. He was almost too fertile in theories, but I encouraged this tendency, for out of a dozen of his suggestions one would prove valuable. In the work of mining he was daring, and inspired confidence in a timid workman, just by the reassuring sound of his voice. He much preferred to avoid the use of frames unless they were absolutely necessary, as their fitting in took so much time, but he

never had an accident. His eye was almost unerring. When, at the end of a long twisting tunnel the air had become so bad that it was necessary for us to open a new shaft from above, with no aid but a tape and his eye he would pick out the spot immediately above, verifying it by pounding the ground and getting the men in the tunnel to do the same. Our angles, taken carefully below and above, would bring us to the same place, much to his quiet triumph.

During my illness his devotion to me was that of a friend. He knew that he possessed our full confidence, and it was his pride to endeavour to deserve it in the smallest particulars. With all his cleverness he was always respectful, always modest. His piety was simple and genuine, and the manner in which he tried to live up to his standards commanded respect. Mr. Dickie and I like to think of him as we saw him in his own Lebanon home last winter, surrounded by his wife and children —as neat a home and as well brought-up children as could be found anywhere.

To replace such a man is impossible, but it is pleasant to report that whereas the son of Ibraham Effendi is with us to carry on his father's excellent traditions, so one who was like a son to Abu Selim, Yusif, our former cook, who for five years has been observing all his ways, and during off-hours has been taking an interest in the excavations, has been chosen as the most available foreman.

In speaking of Ibrahim Effendi and Abu Selim I may have appeared to use extravagant language, but the fact of the matter is that each in his way was a man uniquely well fitted for his position. Over and over again have I been congratulated on my association with these men by those best fitted to know what they were saying.

This report must chiefly concern itself with the late wall surrounding the summit of the western hill. This wall has been described as far as the point A, where I said it gave signs of turning eastwards, at the road, to enter the ground of the Augustinians. Inside these grounds the Superior, Père Gelmer-Durand, had observed remains of a wall at various points, but had not determined their connection. With his cordial consent I began to trace the wall in this property. In our very first shaft at B the wall was found and traced for some 16 feet, when it became much worn away. At C it had been seen before, and we verified its continuation for some 30 feet. A little further east Père Gelmer had supposed there was a tower as he had come across a mass of masonry, but neither its faces nor its junction with the wall had been determined. At D we found the interior angle it makes with the wall, into which it was bonded. In the western side of the tower we found the mouth of a cistern or birkeh, the greater part of which was outside. It had probably been vaulted once. Most of this western side, DE, was destroyed, but enough was left to determine the line. The face, EF, is 44 feet in length. The corner, E, is wanting, but beyond this the lowest course remains for about 15 feet in length, when an interruption occurs. The corner stone at F, however, is still *in situ*. Where the break occurs we found a pavement set on the

rock, evidently older than the tower which had been built over it. The corner-stone, F, stands on a scarp, 9 feet 6 inches high, which runs northward, being 12 inches high at G. At G, however, the east face of the tower does not stand on the scarp but is built up against it, being 3 feet out. This suggests that the scarp is older, and this is further proved by the fact that the scarp runs on north, the wall, GI, butting up against it, or, to speak more strictly, the wall, GI, joins the wall, FG, 3 feet out from the scarp. At G, ten courses of the wall, GI, still remain standing. At H there are six courses. At I the wall runs out, as the rock is very near the surface. The proprietors informed us that while searching for stones to build up terraces they had removed a mass of masonry at O, and another at J, both appearing to point north. The masonry at O was without mortar. We trenched considerably about the point, J, but we found nothing, the rock being only 7 feet below the surface. It seems probable that the wall turned north-east at J to join a ruined tower, which stands still exposed just below the modern Burj el Kebrit on the present city wall. This tower is similar in masonry to the two towers on the wall we are tracing. Signs of masonry have been found north of J, and we propose to trench the ground near K in hopes of finding the continuation of our wall, which, if it was built to enclose the summit of the western hill, would naturally run to Burj el Kebrit. As it is, we have traced the course of the wall for 650 feet.

The part of this wall traced this season from B to I resembles in every way the portion discovered in my last report. It always rests on the rock but usually stands to a considerable height, its summit being buried under only from 3 to 6 feet of soil. The thickness of the part excavated last month varied from 9 to 13 feet. At B we find the breadth on the rock to be 13 feet, but the foundations are stepped out, leaving the upper part narrower. At C the facing stones are gone, but there still remains a thickness of 7 feet. At H and I the inside face has been evidently robbed, leaving a thickness of from 7 to 8 feet. The masonry consists of roughly squared rubble set in weak, black lime, the courses ranging from 11 to 14 inches, and the stones averaging 15 inches in length.

We noticed in our last report that whereas the wall consisted of rough rubble, the tower near B.M. 2479 was built of well-dressed masonry down to the rock. This peculiarity is repeated in tower DEFG. Only the lowest course remains of the face EG, but the character of the masonry could be studied from many stones fallen outside. They resemble the stones of the other tower, of which some are plain-faced, others margined with flat projections. Many of them show the fine diagonal comb-pick dressing peculiar to Crusading work. They average about 22 inches in height. The course *in situ* follows the level of the rock, which is partly sloping ; where it is level, the stones are 33 inches high, and average 19 inches in breadth. One has certainly been re-used, as it has a boltel-moulding worked on the angle. They are well-squared and jointed and set in fine lime.

North of C, Père Gelmer found a Roman atrium, the south part of

which has evidently been destroyed to make place for the wall. We tore the wall to pieces at B in hopes of finding old ornamental material re-used, but nothing except fragments of arched stones appeared. The bit of Gothic zigzag moulding built in the wall-foundations at N has been sketched by Mr. Dickie, but as his right arm has unfortunately been broken, the drawing must wait till the next report.

We have noticed that the east face of the tower made use of part of a previously-hewn scarp. This scarp, FGP, is about 100 feet long, and averages 10 feet in height. It is roughly and unevenly worked. It has not been traced further north than P, but if it continues it must turn to the east, as a rock-hewn cistern stands in the way of an immediate northward direction. We have not yet determined what becomes of it immediately beyond F. At this point it is about 9 feet high, and an angle has been cut back a few feet to give a good corner to the tower, but between E and the pavement the rock is found level for 11 feet south of the tower; hence the scarp does not run in the line FE. Finding work somewhat difficult at F we sunk a shaft at L and drove tunnels east and west for 40 feet, but found no scarp. Hence, if it continues beyond F it must have greatly changed its direction. There are many scarps on this western hill and I am inclined to think that this one has no especial significance, but we shall make the matter sure by working southward from the point F.

The pavement at P was described by Mr. Schick in the *Statement* for January, 1894, p. 18. It is 18 feet broad, and 50 feet of its length are seen. The paving stones vary in size, the largest being 6 feet by 4 feet, and the smallest I noticed is 29 inches by 18 inches. On the west side runs a coping 10 inches high. It slopes very gently to the north. Mr. Schick thought it was an open place or piazza, as the scarp appeared to stand in the way of its being a street continuing further south. But further work done here by the Augustinians showed how the difficulty of the scarp was overcome. The scarp had been cut back to form parts of cisterns, the east side being formed by a wall, 3 feet from the scarp, and the flagging stones spanned the distance between the top of the scarp and the wall. When the cistern cuttings had reached the top of the scarp the pavement was carried upon arches. That it represents an ancient street is made probable by the finding of four bits of pavement in line with it. The portion at F, over which the tower was built, has been mentioned before. The flagstones correspond in appearance to the smaller ones found at P. Here 12 feet of breadth were seen. While searching for a scarp at L, another bit was found. At this point part of the pavement was made by levelling the rock, as was noticed by Mr. Schick, at P. A similar coping was observed, but on the east side. The street may have been 12 feet wide at this point. In our work last winter, at M, we found a similar pavement, as described in my last report, p. 110. At this point it was 4 feet from the rock, but under it were two floorings of white tesseræ. We shall follow the pavement at L, both north and south, and endeavour to ascertain whether the parts at P, F, L and M

belong to the same street. Unfortunately a continuation south of the line PM to the line of the city wall would strike this at a point west of the Jewish Cemetery, where we found it ruined down to its rough foundations ; hence there is little hope of its leading us to a gate.

In our work at B we again came across the drain which we had struck several times further south.

As a good part of our work this season has been taken up in the following of clues, which we are still pursuing, I must leave other details for the next report. It will be remembered that near the Pool of Siloam we have two walls, one crossing the valley, thus including the pool in the city, and the other branching off from it, before it crosses the valley and running north-west. On the plan in the *Quarterly* for October, 1895, it may be seen as far as the point T. One hundred feet from T is an exposed scarp. This we have followed north-west for 250 feet, partly by an open trench, partly in a tunnel to a point opposite the real Pool of Siloam. This scarp is well worked, and at one point was found to be 17 feet high. No wall was found upon it, but we shall work back under the road to determine whether it runs to the point T, where the wall, LT, was last seen.

We have already begun one of a series of shafts across the Tyropœon Valley north of the Pool of Siloam, to ascertain its true depth. This shaft is now about 40 feet deep, but we have not reached the bottom. Considerable work has also been done on Ophel, west of the Virgin's Fountain, near the top of the slope. At this point Dr. Guthrie found traces of a wall. We were led to work here by the fact that the proprietors were digging for stones and removing stones *in situ*. We traced a scarp for some distance, and since our work it has been blasted away. Incidentally remains of baths were found. Full measurements were taken, but as we expect to reach this place again in the course of our tracing the wall up Ophel, the description is reserved for a later report, as the account of detached remains is apt to be confusing.

The season has been unfortunate in the loss of time. Owing to various causes—death, an unusually late wet season, and a month's waiting for the arrival of the Permit to continue the excavations—we have done less than half a season's work. It has, however, been good work, as the men are loyal to Abu Selim's memory and take to their new young foreman. Our camp is pitched just outside the line BD in the Augustinian land. Having captured a city wall it seemed quite fitting that we should encamp within it.

Jerusalem, *June 8th*, 1896.

REPORTS FROM HERR BAURATH VON SCHICK.

1. Veronica's House.

Since the middle of the fifteenth century this has been shown in the modern Via Dolorosa (on the Ordnance Survey Plan $\frac{1}{2500}$ "Tarik es Sarai," at the place where the word "Via" stands). Felix Fabri, A.D. 1484, says when going eastwards from the neighbourhood of the Church of the Holy Sepulchre: "As we went down the hill, we came to the place of Veronica, who is said to have been the woman healed by privily touching the hem of the Lord's garments . . . . some say that this woman was Martha; but Eusebius says that she who was healed by the Lord was Veronica,[1] a matron of especial piety and modesty. . . . . This woman, together with her kerchief, was brought to Rome at the command of Tiberius Cæsar, who was stricken down by a heavy sickness, of which, as soon as he had seen that sainted woman, and touched the image, he was healed." She remained at Rome till her death, "and by will left the image itself imprinted upon the linen cloth to the Pope, and it is at the present day in the Church of St. Peter. I saw this 'Veronica' at Rome on Ascension Day, 1476." To this I may add, that in our modern time a traveller told me that he had seen this handkerchief at Rome. Fabri goes on to say: "So we viewed this house in a cheerful spirit . . . . we kissed the door and received indulgences . . . . Some time after we were admitted into that house by the Saracen who dwells therein" (Pal. Pil. Text Soc. trans., i, 443–4).

Fabri speaks of the locality as a well-known site; so that the tradition of it may go back to the early Christian time, although it is not mentioned anywhere, as far as I know, in earlier times. After Fabri, it was always one and the same house. Zuallart remarks that there were two arches crossing the street, and I may say that the one which is resting on the one side of the wall of Veronica's house is a very ancient one. The pilgrims recognised the house by some steps, which were there till recently, when they were removed for the restoration of the house. In A.D. 1586 Quaresimus describes the house as wanting repairs, and 12 years later, according to Cotovias, the walls were repaired, so that 48 years later Surius (448) could speak of new walls, with a double stairway of four steps. The traces of these steps I saw before any restoration wa done. Richter, in 1815, speaks of a new house, which was certainly the same built a few hundred years before, and coming down to our days.

[1] Some think it was Berenice, the widow of Aristobulus, who came afterwards to Rome accusing Pilate for his crimes, but if so, then the road our Lord had to go with the cross was quite another one, passing the palace of the Hasmonæan princes, which was situated west, opposite the Temple. I may add that the name Veronica, with *Vera icon* = "the true picture," was used as a quibble in words.

The upper part of the house was built like nearly all the houses of Jerusalem after the Crusaders' time, but the lower part was much more ancient, as the excavations proved. During many centuries it was believed that a church had stood here, although they could not mention any traces of such.

The recent excavations brought to light very old masonry, some very large stones, and showed the rock to be near the surface, but the chief part was a place about 13 metres long, 6 metres wide, and from 3 to 4 metres high; 12 low, or depressed, arches of hewn stones crossed it, leaving spaces between from one to the other, about 0·45 wide, which then were covered up with flat stones. The whole is exactly like the "Credo" on Mount Olivet. The united Greeks, who have bought this house and are doing the excavations and restorations, would have liked that I should say this remarkable place has once been a church. But I saw no *apse* or anything that one may be sure to have been part of a church, although it may have been some sanctuary or place for worship. In the last four or five centuries it had been a cistern, but it is now made into a kind of sanctuary. Over it, and more north, where there stood some rooms, a spacious new church has been built, with rows of pillars, and covered at the crosspoint with a dome. The house has now three entrances—the western one, on the site of the ancient entrance to the house, goes to a passage and some steps up to the new church and the small convent; the next leads into the vaults and old chambers; and the third, or eastern one, into a room situated under the new church, with some figures of life size showing the scene which once took place here—Veronica wiping away the sweat from the countenance of the cross bearer, Simon and Roman soldiers standing by. This room is lighted by two large windows towards the street, and over the two (still existing) arches crossing the street there are a few chambers.

Behind the arches under the main building the Greeks cleared out some other places, intending to make a cistern there; it is towards the hill, and all is full of earth. By this excavation there were found several old ornamented stones, and also one with a Greek inscription of which I have already sent a copy. There were recently found most curious arrangements, built up by bricks, with various pipes, as it seems, for water, and others certainly for smoke, or a kind of chimney, so that it is difficult to say what the place once had been. I think it was a bath, but the Greek priest thinks it was something else. To me it seems these choked-up places at the back have been buried for more than a thousand years. Unhappily the tiles are without any mark. They are not Roman; so I think they may date back to the Jewish time.

This house of Veronica is now the VIth station of the Latin Calvary road or Via Dolorosa.

2. Herod's House.

About a year ago a German Roman Catholic priest, in a letter to me, put many questions on topographical points, and remarked :—"The

palace of Herod is mentioned by most of the pilgrims in nearly all centuries of the Christian era, but very seldom visited. Count Solms, A.D. 1496, saw it by special favour of the Moslems. It was north of Pilate's house or the site of the former tower of Antonia. As Herod Antipas came to Jerusalem as a pilgrim, he could not use one of the three palaces of his father, as they were now Imperial, so he had another palace where he could lodge during his stay in Jerusalem. Very likely it was not a large one, notwithstanding it would be an interesting building and well worth looking for. Please let me know what you know of it."

In order to be able to answer this gentleman, I went there and inspected the house, which is now in some parts ruined; but when I came here in A.D. 1846 it was still good, and shown to me as Herod's Palace. Owing to its various coloured stones and high situation it is very conspicuous.

According to Tobler ("Top. Jer.," i, p. 649), it is first mentioned in the fourteenth century. Gumpenberg (A.D. 1449) makes the building 200 paces distant from the house of Pilate, on a height, to which a road with steps leads. Fabri (Pal. Pil. Text Soc. trans., i, 451), 35 years later, says:—"Leaving the aforesaid house, we came to another street leading upwards from it. Here we left the street down which we had come from Calvary, mounted up this street, and came to a great house, which was the house of King Herod . . . . to which the Lord Jesus was brought from Pilate up this ascent. Herein he was scoffed at by Herod's army . . . . We bowed ourselves to the earth and prayed before this house and received indulgences. During my first pilgrimage I was unable to obtain entrance to this house, because there was there a school of Saracen boys therein. In my second pilgrimage we were suddenly driven away from the house because the Governor of the city kept his concubines in it. . . . . So we hurried away that we might not offend the Governor." There can be no mistake in taking the very house which is shown to-day as the one seen by Fabri. In examining it I found in the lower story a few very strong arches, but all the rest seems to be Saracenic.

The site was excellent for a palace, and having roads on three sides it stood somewhat isolated. The old aqueduct passed about 12 feet distant from its south side or chief front, and there was there a kind of terrace formed by the rock. Opposite the gate of this house was a round pool cut into the rock, and fed by the aqueduct. The house was a compact one, having no courtyard in its centre. It has still an entrance on the south side, and also one on the eastern, which was made in the time of the Saracens, and is situated between the strong arches mentioned. It has two stories, partly even three, and on the western side there is a mosque, once the largest room of the house. It has also two cisterns; the size of them I cannot tell. One side of the house is inhabited by Christians, the other by Mohammedans. The look-out from the upper windows and the terraces of the roof is very nice, embracing a great

part of the holy city. Pillars and other similar architectural remains I have not found. A little higher up on the hill, and behind this house, stands quite alone and separated from other buildings, the *Medinet Hamra*, or Red Minaret, which is no more in use, and, as it seems, ill-famed by the Mohammedans.

3. Mosque in the Street "Suweikat Allun."

As some ancient writers speak of convents, &c., near David's tower, and as there is in its neighbourhood, in the street "Suweikat Allun," a mosque (but nearly always locked up), I wished to see it, in hope to find one of those old little churches, but failed. The Moslem who had the key which opens the gate close to the street gave it to me. On passing the door one comes into an uncovered passage, and a few steps further to another door, which I found open. The room inside is large but bare of everything. On the south side is a mihrab, and in the east wall a recess, as if there had been once a door, or rather, as I think, a stair there. Of an apse I could see nothing, and the whole building is not very old. It may have been afterwards rebuilt as a mosque on a former Christian place of worship.

4. Church of Mar Jirias of the Greeks.

Its situation is marked under 19 in the Ordnance Survey Plan of Jerusalem, scale $\frac{1}{2500}$, some distance east of the Latin Convent St. Salvador, in the street called "Harat Deir el Franj." It is a kind of convent and pilgrim-house with a church. There arose in June last a rumour that from one of the pictures in this church water was running out, and many people went there to see it, judging it to be a bad omen. After a few days I also went there to see the miracle, but found the place dry; and the priest said that only for three days water came out from this picture, which represents, as he told me, the Archangel Michael. In the decorated thin wall behind the altar there are three openings: the middle larger, and the side ones narrower. In each of these openings stands a picture in half relief of brass and gilded. The southern one represents the Archangel Michael, and there the water had run out, first in a little stream, and then dropping more and more slowly, until it ceased. I took advantage of the occasion to measure the church, and send herewith a plan of it. The building seems, as far as I could judge, to be Byzantine.

The Greeks have another Church of Mar Jirias outside the city, opposite the castle, and there is the place for curing persons who are insane. When brought there these poor people are bound to iron chains fixed in the wall, so that they cannot move much. At El Khŭdr, near Solomon's Pools, the Greeks have another establishment of the same kind.

5. The Coptic Mar Jirias Church.

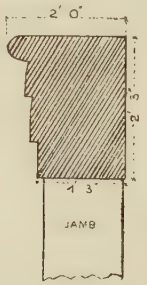
Marked 12 in the Ordnance Survey Plan $\frac{1}{2500}$, situated west of the Birket Hammam el Batrak, or Hezekiah's Pool. There is a Coptic

convent and pilgrim-house with an old church. But they are now about to make great alterations, to abandon the old, partly-decayed buildings, and erect new ones in a much better manner. I have examined and measured the old church, of which I enclose a plan. It is rather a dark place, having no proper windows. The entrance is on the north side. The outer walls may once have had windows, but I could see nothing of them, and very likely before the upper building was put on. The central part may have been covered with a dome (?) At the north-western corner of the whole building is a dark, small room, which seems to have once been also a kind of church, and there, between the latter and the main church, is a little dark cell, where insane people were brought and bound to the iron chains—which are still there fixed in the wall—to become cured by Mar Jirias or the El Khŭder (St. George). The modern hospitals have made these procedures with insane people unnecessary; so that the holy Saint Jirias has less to do now than before. Jirias, or El Khŭder, is held in great esteem by the natives, not only by Christians but also by Mohammedans. (*See Quarterly Statement*, 1888, p. 69; 1894, p. 36, note by Dr. Chaplin.)

6. Some Old Remains.

(*a*) *Abraham's Convent.*—Under the Greek Convent of Abraham, which is part of the Church of the Holy Sepulchre, or rather at the south of it, east of the churchyard, is, behind the Armenian Church of St. John, a kind of a cellar or magazine. The lowest part of a former church building with clumsy thick walls, the southern part of it can be seen as a ruin in the Abyssinian Convent. This underground place seems to have been a crypt. The Greek Archimandrite Ephthemius has altered and much improved Abraham's Convent, and also some light was brought into this dark underground place, so that I could more closely examine it. I found there rock-cut tombs, not Jewish, but Christian, *i.e.*, a kind of trough, cut into the rock, also the walls of this place are partly rock. Over the entrance door, which is about 8 feet wide, is an interesting

Section of Lintel.



lintel, upon which I hoped to find some marks or inscription, but found nothing. It is an immense stone, about 12 feet long, and in section as shown in the accompanying drawing. These cuttings, like steps on the

face of a lintel, I have observed also on a lintel at the Bethlehem Church, and broken pieces of such I found on Mount Olivet, which apparently once belonged to the Ascension Church, which would suggest that this church, which is so curiously added to the Holy Sepulchre Church, was built in the same age as the Ascension Church.

(*b*) *An interesting stone basin.*—When examining the underground places round the Church of the Holy Sepulchre, I found under the northern part of the house called Dar Isaac Beg a long tunnel-like vault, in direction from east to west. It is 16 feet 4 inches wide, 10½ feet high, and 75 feet long, with 8½ feet thick walls, and covered with a semi-circular arch. The northern wall had two windows (by which I could measure the thickness of the walls), but closed, as they are now underground. In this tunnel-like place is a rock-hewn cistern, and near its mouth stands a nice round stone basin, still good and sound, although worked rather thin.

(*c*) *An old pillar.*—In the court of the Charalambos Convent there is lying on the ground a fine stone pillar, 14 feet 2 inches long, and 2 feet 3 inches diameter ; it was originally somewhat longer, and thought to have once stood in Constantine's Matyrion, or it may have been the brother of the one still standing in a former shop (now a Latin Sanctuary) at the so-called "Gate of Judgment," near the Russian Hospice, at the cross-roads there.

Jerusalem, *September 9th*, 1895.

CHISEL-DRAFTED STONES AT JERUSALEM.

By John Bellows, Esq.

In the sixth of Viollet le Duc's "Lectures on Architecture," he goes into some interesting details of the masonry of the wall at Jerusalem, particularly of the remains of the bridge that connected the temple with the palace ; and of the southern face of the south-east angle of the retaining wall. His object is to show that the stonework here is Phœnician, and not Roman of the time of Herod. Speaking of the chisel-drafted blocks forming the abutments of the arch, he says : ". . . these blocks are not hewn conformably with the method in use under the Empire ; the faces are coarsely dressed, and around the beds and joints may be observed a wide chiselling like that which is found on the few remains of Phœnician masonry. The beds and joints are beautifully dressed, perfectly true, and without mortar. . . . *If* this arch and the walls that serve for its abutments do not date from the primitive construction undertaken by Solomon, and carried on during several centuries after him, it must be admitted that they belong to the restoration or reconstruction undertaken by Herod under Augustus."

Viollet le Duc further gives an engraving of the platform of the temple, corresponding in detail to that on the cover of the *Quarterly Statement*, but showing the southern face of the south-east corner of the wall, and he goes on to say: "Do we not find in this basement the traces of an altogether primitive art? Does not the setting back of the layers (*battering*) in conformity with the method pursued by all primitive nations, indicate a very high antiquity? This gigantic masonry, these projecting ledges, and, I repeat it, the perished beds of these blocks, are they not proof of an age long anterior to the time of Herod?"

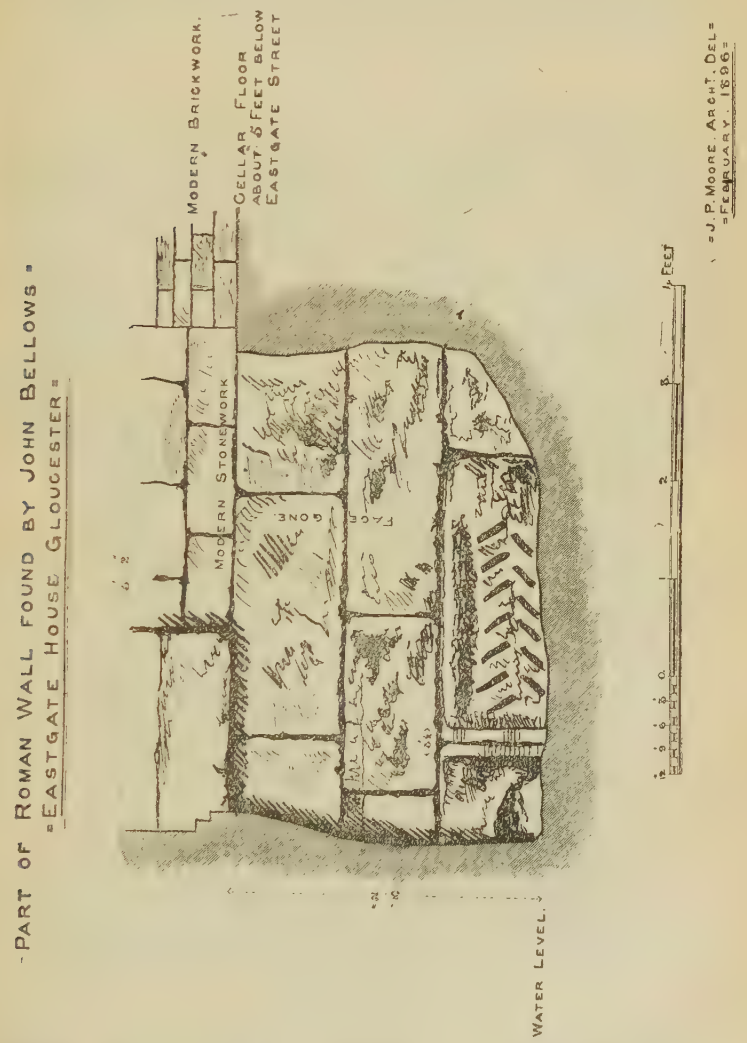
I trust it may not seem presumptuous on the part of one who has had but little technical experience, to give practical reasons for believing that they are *not* proof of the antiquity the great architect here suggests.

In 1872-3, it was my lot to discover the Roman wall of Gloucester, which a few years after was mapped by the Ordnance Survey, and recorded on the large-scale plan of the city. Since the Ordnance Map was made, I have put down a pit in the cellar of Eastgate House, close to the gateway itself, to examine the other or *outer* face of the wall: the original discovery having been made in an excavation of some 40 feet in length along the *inner* side, and in course of which the largest find of Roman pottery, &c., occurred (as I was assured by the late Professor Rolleston), which has ever been made in one heap in Great Britain. The wall is about 6 feet thick: the upper portion, which alone is visible on the inside, being built of small stones grouted or concreted together and pointed on the face. On the outer side, which I have since laid open in the cellar of the house to a greater depth, we came down to courses of large blocks, carefully jointed in the bed, *and laid without mortar*. The lowest course I was able to reach shows a block with a roughly-picked face and a *large chisel-drafting* exactly such as Viollet le Duc lays such stress upon, as a mark of pre-Roman building. I say the lowest I have been able to reach: for at this level I came upon a spring of water (which is strongly saline) that stopped my further digging, as it did the mining at the same spot (the East Gate) by the army of Charles I during the siege of the city in 1643.

We have clear evidence that this Roman wall of Gloucester was built about the middle of the first century; that of Chester, which dates a few years later, showing the same peculiarity of the blocks being laid *without mortar* in the portion of the wall which is subject to immersion in water. I have tried to get a photograph of the chisel-drafting in question, but the very cramped space in the pit will not admit of working a camera. My friend, James P. Moore, architect, has, however, made a careful sketch of it, which accompanies this paper.

Now, the width of the drafting at Jerusalem varies. I find that of the wailing place, as given in Plate X (Haram es Sherif) of the Ordnance Survey, is 3 inches; mine at Gloucester is $3\frac{1}{2}$ inches. Not only is the drafting identical in character, and very close in dimension, but all the other marks upon which Viollet le Duc relies for his proof that the Jerusalem masonry is pre-Roman, are found in the Gloucester masonry,

which is unquestionably Roman. Thus, he speaks of the battering as indicating "a very high antiquity"; but the Gloucester wall is battered in exactly the same way, by stepping back a course some 2 inches at

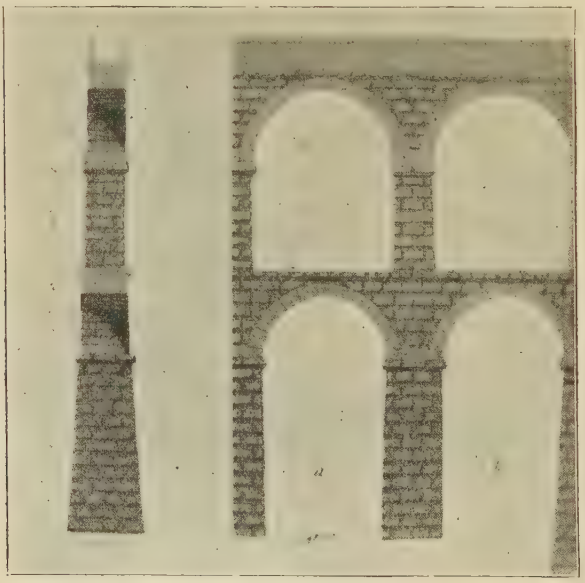


intervals of about 2 feet in the elevation. Even the "perished beds" of some of the blocks is not necessarily a proof of great difference of age: for I find several places in the wall of Gloucester, in which the oolite

stone shows a perished face on one block, and a perfectly sound one on the next, in the same course.

Further on in the same lecture, Viollet le Duc instances "notchings" or "décrochements" in the stones as a survival of cyclopean (and therefore very ancient) work. No doubt this is so: but that it survived on to the time of the Empire is plain. I have found several stones here showing it.

If further proof were desired that the Jerusalem platform stones *are* "hewn conformably with the method in use under the Empire," although that method may have been initiated long before by the Phœnicians, and simply continued under the Romans, we have it in the remains of the palace of Augustus at Tarragona in Spain, and of the town wall, and the



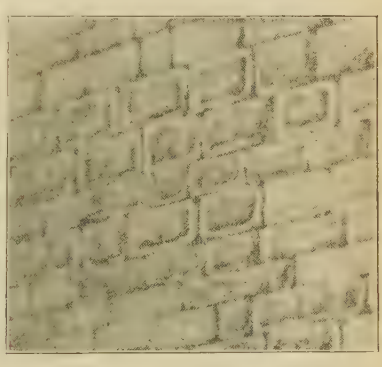
Roman Aqueduct at Tarragona.

Roman Aqueduct at the same place, which belong to the same epoch; the palace, amphitheatre, and Aqueduct all forming one group of works. I take the drawings here given, from "Description de la Catalogue," published at Paris in 1806. Here we have masonry precisely of Herod's

time (*i.e.*, of the time of Augustus), showing clearly the same large chisel-drafting as at Jerusalem, though on smaller stones: while the piers of the Aqueduct show a batter of what appears to be about the same angle of inclination. The base is 13 feet (old French measure) and it narrows to 9 feet 6 inches, at a height of 31 feet. The pointed arch in the palace wall is a mediæval addition, which has, as will be seen, displaced some of the stones.

Roman Masonry at Tarragona.

Palace of Augustus.



City Wall.

I think a comparison of these walls with the drawings of Dr. Bliss and Archibald Dickie and others, in the *Quarterly Statement*, will prove of interest. With the mention of one more item I will conclude. If I understand the drawings correctly, it is not infrequent to find in masonry at Jerusalem even chisel-drafted stones bedded the wrong way of the grain; that is, with the lines of stratification running perpendicularly to the bed, instead of horizontally. We have found several chiselled stones similarly placed in the Roman wall of Gloucester.

CONSTRUCTION OF THE TABERNACLE.

By the Rev. W. H. B. Proby, M.A., Crosse and Tyrwhitt Scholar, Cantab.

I should be sorry to speak disparagingly of Mr. Brryman Ridges, though his Hebrew scholarship does not seem commended by his remarks in the last *Quarterly Statement*. But surely his theory refutes itself. I also have made the construction of the Tabernacle a matter of study, and have come to the conclusion that on the whole Mr. James Fergusson's theory as stated in "Smith's Dictionary of the Bible," s.v. Temple, is sound. On one point, however, I venture to hold my own opinion, which does not seem as yet to have been before the public, viz., that the "middle bar"

was set up on end between the third and fourth boards at the western end of the Tabernacle (on which account it was so designated), and supported a ridge-cord, the other end of which was supported by the middle "pillar" at the entrance. I venture to render the participle in Exodus xxvi, 28, "causing to reach," *i.e.*, causing the ridge-cord to reach. Cords, I would observe, are mentioned in Exodus xxxix, 40.

SEAL FROM HEBRON.

By Lieut.-Colonel Conder, R.E., D.C.L.

This seal was brought from Hebron thirty years ago by Rev. Dr. Stewart, of Leghorn, and given to Dr. Cumming, of Edinburgh. It is now in possession of his son, who kindly showed it to me.

It is in the style commonly found on signets from Babylonia, Phœnicia, Cyprus, and Palestine, and represents a man holding a goat. It has been thought to refer to the Scape Goat. The figure is not milking, nor does it appear to be sacrificing, the goat. The design, as far as my experience goes, is very unusual. The designs on such seals have usually a religious meaning.

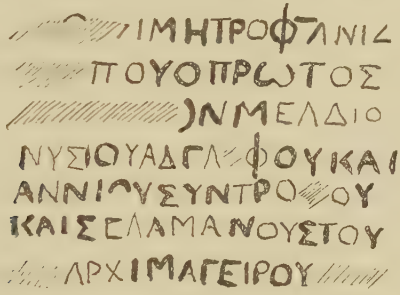
A GREEK INSCRIPTION FROM THE GRAND MOSQUE, DAMASCUS.

By Ernest W. Gurney Masterman, F.R.C.S.

When going round the ruins of the Grand Mosque a few days ago, some Christian workmen, engaged in carving new capitals for the columns destroyed by the fire of 1892, pointed out to me a Greek inscription. This morning I paid a special visit to the mosque at an early hour in order to copy it.

The inscribed stone is built into the inner face of the southern wall of the mosque, near the Mâdinet-el-Gharbîyeh. It is the eighth stone to the eastern side of the side entrance in the third row above the floor. The Moslems at the mosque say that before the fire it was plastered over and they did not know of its existence. The stone is about 5 feet long and 2½ feet high. The inscription is not in the middle, but to one side. As soon as I began deciphering the letters, I found that the stone was built into the wall upside down.

Apparently when this was done the whole surface was chipped over—regardless of the inscription—to make a rough surface to hold the plastering, for not only is the whole surface uniformly rough, but in the case of most of the letters, as the enclosed copy will show, only the parts deepest cut survive. I much fear there is scarcely enough preserved to enable even a specialist at such work to decipher much. The letters I have marked dark are, I think, unmistakable, though, of course, they may be incomplete. What I have marked lightly is also fairly clear; indeed, when in doubt about any mark, I have marked nothing. It seems clear that the whole inscription was originally but seven lines, and that none of the lines were longer than the longest represented here, as there is no trace of letters around the area of the inscription.



It may interest those who read this to hear that the grand old mosque is left now almost as it was immediately after the fire. The floors are still, over a considerable area, piled with rubbish, and beyond a few new pieces of columns, capitals, &c., there is no sign of any rebuilding going on. Even "unbelievers" are now permitted to go from the Bâb-el-Berêd into the mosque without removing their boots.

Damascus, *May 3rd*, 1896.

Note by Dr. Murray.

. . . . . .

. . . . . .

. . . . . Διο

νυσίου ἀδελφοῦ καὶ

Ἀννίου συντρό[φ]ου

καὶ Σελαμάνους τοῦ

ἀρχιμαγείρου.

Inscription apparently in memory of some one, at the instance of his brother, Dionysios, his foster-brother, Annios, and Selamanes, the chief

cook. The name Selamanes occurs in inscriptions from Syria as that of a deity. *See* "C.I.Gr.," iii, 4449–4451. The form "Salamanes" is given by Waddington, No. 2147, as that of an ordinary name.

THE SITE OF THE TEMPLE.

By Lieut.-Colonel C. M. Watson, C.M.G., R.E.

In the *Quarterly Statement* for April, at p. 170, there are some observations by Lieut.-Colonel Conder upon my article on "The Site of the Temple," which appeared in the January *Statement*. Any remarks by Colonel Conder respecting Jerusalem are deserving of the most careful consideration, as he has devoted so much of his life to the Holy Land and all connected with it, and it is a satisfaction to find that in the main he seems entirely to concur with what I wrote concerning the probable arrangement of the Temple buildings.

But to some of his observations I cannot agree, and, therefore, think it desirable, as briefly as possible, to give my reasons for differing from his conclusions.

And, first, as regards the length of the cubit which was probably used in laying out the Temple and its courts. Colonel Conder remarks that "Colonel Watson admits that a cubit of 16 inches would give better results than one of 18 inches." Now, I certainly do not admit such a supposition, nor do I think that the words used in my article can be read to imply this. What I did say was as follows:—"After reading all I could respecting this question, it appears to me that the cubit used was that of about 18 inches. Possibly it was rather less, say 17·7 inches, but this is not certainly proved, and I have adopted a cubit of 18 inches in making the plan. A somewhat smaller cubit would perhaps have given slightly more satisfactory results, but that of 18 inches is good enough for practical purposes, and has the advantage of easy reduction to measures that are given in feet." It must be remembered that the cubit used in the construction of the Temple was one of six hand-breadths, and I do not think any cubit of six hand-breadths was as small as 16 inches.

I am well aware that Colonel Conder believes that the cubit used was one of 16 inches, and I have read much that he has written to prove this. To me, however, his arguments are not convincing. Take, for example, the article on "Linear Measures," at p. 57 of his "Handbook to the Bible." He first states that the cubit was equal to the fourth part of the height of a man, or to the length of the forearm to the end of the longest finger. The cubit was divided into six palms, or hand-breadths, and the palm into four finger-breadths. He then goes on to say that the finger-breadth, according to the "Sephor Torah," was equal to two barleycorns laid endways, or the width of seven barleycorns laid side by side. This

would evidently make the cubit equal to $6 \times 4 \times 7 = 168$ barleycorns laid side by side, so that if the cubit was, as supposed by Colonel Conder, 16 inches in length, it is evident that 10·5 barleycorns would go to an inch. Now, I certainly do not think that any barleycorns are so small as this would imply. The ordinary barley in England averages seven grains to the inch, but the grains of barley in the East are rather smaller. Mahmoud Pasha el Falaki, who devoted much study to the length of the different cubits in use in Egypt, found that the average length of the religious cubit of the Arabs, which consists of six hand-breadths, each of four finger-breadths, each of six barleycorns, was ·4886 metres, *i.e.*, 19·136 inches, which gives 7·5 barleycorns to the inch. I doubt whether there is any barley, of which the grains are smaller than eight to the inch, which would make the cubit referred to by Colonel Conder 21 inches and not 16 inches in length. But it is rather curious that the tract, "Sephor Torah," upon which he bases his argument, states that seven barleycorns laid side by side are equal in length to two barleycorns placed lengthwise, making one barleycorn in length equal to 3·5 in breadth, a comparative measurement for which I cannot find justification. His other arguments in favour of a cubit of six hand-breadths being 16 inches in length appear to be equally inconclusive. Without going into details, which would take too long for this note, I would say that it is probable that the approximate length of each of the three different cubits was :—

Cubit of	7	hand-breadths	....	....	20·65 inches.
,,	6	,,	....	....	17·70 ,,
,,	5	,,	....	....	14·75 ,,

Of course I may be wrong and should only be too glad to hear of some further light upon the subject. It is one upon which it is not safe to dogmatise. Whatever the length of the cubit may be, however, it does not affect Plan No. 1, published with my article, and only to a small extent Plan No. 2.

The next criticism that Colonel Conder makes is that I have shown the levels of the courts rather too low. For instance, that I have given the level of the Court of the Priests at 2,431, whereas he says that there is a rock level of 2,432 within the area, and he refers in proof of his view to the list of rock-levels published in the Jerusalem volume of the "Memoirs," at p. 277. In this list No. 2 level is 2,432, and is described as a point 100 feet east of the highest part of the Sakhrah. Now, the highest point is towards the west side of the Sakhrah, but even if we measure from the centre of the rock it will be found that a point 100 feet east of it comes not on the Court of the Priests, but under the floor of the Porch, which was at a level of about 2,440 feet. There is another level, No. 8, given as 2,432, but this is outside the Court of the Priests to the north, while a third level, No. 10, given as 2,433, is outside the Court of the Priests to the west. I am unable to find any level greater than 2,431 within the limits laid down for the court on the plan.

Colonel Conder also objects to my level, 2,416, for the Court of the Women, on the ground that there is a rock level 2,420 within that area. Here, too, I am in a difficulty in identifying the exact point he refers to. There is a level of 2,420 on the list already referred to (No. 7), stated to be 120 feet south of the south-east corner of the platform of the Dome of the Rock, but this is outside the Court of the Women to the south. There are also levels of 2,421 (No. 4), 2,423 (No. 5), and 2,419 (No. 6), but these are all outside the limits of the Court of the Women, as I have suggested it, to the north. It appears to me, therefore, that though I should be very sorry to assert that the levels, as given in my plans, are certainly right, Colonel Conder's criticisms are not proof that they are wrong.

The next point in his observations is that I spoke of the "Middoth" as the authority for the exact distances to the boundaries of the Mountain of the House. I am obliged to him for pointing this out. It was an error in writing, as I was quite aware that these distances are not in the "Middoth," but in the later work, "Tosephoth Yom Tob." But as he accepts these measurements as probably correct, and has adopted them in his small plan of the Temple given in the "Handbook to the Bible," we are not much at variance on this point. With his plan I am well acquainted, but it is on too small a scale, and gives too little detail to be of much use in studying the question, or in following the description of the Temple buildings given in his Handbook. To arrive at any satisfactory result in such a case it is quite necessary to work on a much larger scale than he has done, and I would like to take this opportunity of remarking that the plans as I worked them are very much larger than the reproductions published in the *Quarterly Statement*, as I plotted the Temple itself on a scale of $\frac{1}{144}$, and the courts on a scale of $\frac{1}{500}$.

Colonel Conder seems rather surprised that I did not refer to what he has written, but the fact is that I purposely avoided consulting his books or any other modern authorities in preparing the plans, which were based altogether on the description in the "Mishna," as translated by Dr. Chaplin, and in Josephus. The translations made by Dr. Chaplin appeared in the *Quarterly Statements* for 1885, 1886, and 1887, and I join with Colonel Conder in strongly recommending them to the attention of subscribers to the Palestine Fund. If Dr. Chaplin could spare time to republish these translations in a separate volume he would confer a great benefit on all who are interested in the Temple of Jerusalem.

In conclusion I would repeat that the plans which accompanied my article can only be regarded as tentative, and I would be very much obliged for any criticism upon them. I would mention that some interesting communications have already reached me with regard to them.

THE ONOMASTICON.

By Lieut.-Colonel Conder, R.E., D.C.L.

Among the more important authorities on Palestine geography is the Onomasticon of Eusebius, translated into Latin by Jerome. It has been used by me in the Memoirs of the Survey, but no continuous account of its contents, as illustrated by the Survey discoveries, has been published by the Palestine Exploration Fund. The following notes may be useful as indicating its peculiar value. Jerome speaks of the nomenclature of the country in words which still apply sixteen centuries later: "Vocabula quæ vel eadem manent, vel immutata sunt postea, vel aliqua ex parte corrupta." His own acquaintance with Palestine was wide and minute, and he often adds new details of interest to the Greek text of Eusebius which he renders. It is only necessary here to notice the places which are fixed by the authors, and not those which were (and usually still are) unknown. The order of the names which follow is that of the Onomasticon text, following the spelling of the Greek of Eusebius and the Greek alphabet.

Abarim, the Moab Mountains. Jerome says: "The name is still pointed out to those ascending from Livias (*Tell er Râmeh*) to Heshbon, near Mount Peor—retaining the original name; the region round being still called Phasga (Pisgah)." The road in question appears to be that from Tell er Râmeh to 'Ayûn Mûsa (Ashdoth Pisgah), and thence to Heshbon, passing under Nebo on the north. Jerome calls Abarim "the mountain where Moses died," evidently Nebo itself; but Peor (Phogor) seems to have been further south.

Abel of the Vineyards (Judges xi, 33). Jerome says that two Abilas were still known, one 7 miles from Philadelphia (*'Ammân*), "seen placed among vineyards," the other, 12 miles from Gadara (*Umm Keis*) on the east, "fertile in vines," and a third in Phœnicia, "between Damascus and Banias." The first of these places is not known, the second retains its name, the third is Abila of Lysanias (*Sûk Wâdy Barada*). The culture of vines in Gilead in the fourth century is here indicated, but only the rock-cut wine presses now remain.

Abel maula (Judges vii, 22) is placed 10 miles "contra australem" from Scythopolis (*Beisân*), apparently at *'Ain Helweh*. Another place called Abelmea, between Scythopolis and Neapolis (*Nâblus*), is noticed. The only similar name is that of the well called *Bel'ameh*, south of Jenîn.

Abenezer (1 Sam. iv, 1), "between Jerusalem and Ascalon, near the village of Bethshemesh." This is the modern *Deir Abân*, but whether the site really suits for Ebenezer seems very doubtful.

Agallim (Isa. xv, 8) is identified with Aegalim, 8 miles south of Areopolis. A site still to be found in Moab.

Aggai (Ai, Gen. xii, 8), a few ruins (probably at *Haiyân*), east of Bethel. Jerome here notes that there was a church in Bethel. The present church seems to belong to the twelfth century.

Agrispecula (*see* Num. xxiii, 14), overlooking the Dead Sea, not far from the Arnon; is not easily fixed among the various peaks of the Moab plateau.

Adasa, near Gophna, now the ruin *'Adasah*.

Addara (Joshua xv, 3), apparently unknown. The Latin continues: "There is also another town in the region of Diospolis (Lydda), near the region of Thamna." Apparently Ataroth Adar is here intended (*ed Dâriah*), Thamna being *Tibneh*, north of Lydda.

Adithaim. Under this head two places are noticed, *Adia*, near Gaza, and *Aditha*, near Diospolis. The first is unknown, the second is now *Hadîtheh*.

Adollam (Joshua xv, 35). "Still a village, not small; east of Eleutheropolis." Now the ruin *'Aid el mia*.

Adommim (Joshua xv, 7), said to be a ruin called Maledomim, "ascent of blood" (now *Tal'at ed Dumm*, "ascent of blood"), on the way from Jerusalem to Jericho, where was a "castle of soldiers." The name is said to have been due to the blood shed by robbers, but it appears really to arise from the red streaks in the white limestone. The castle stood no doubt on the site of the more celebrated twelfth century fortress close by, which still remains in ruins. Jerome connects this site with the Parable of the Good Samaritan, which still is connected with this desolate spot.

Aendor (1 Sam. xxviii, 7), south of Tabor, 4 miles, is said to be "a large village." It is now a very small one, *Andûr*.

Aermon (Hermon). "It is said that there is a wonderful temple on its summit, worshipped by the natives of Paneas and Lebanon." The remains of this temple still exist. The Paganism of Syria was not extinct in the fourth century. A further note says: "Whence the snows are brought in summer to Tyre, *ob delicias*." The snows of Hermon and Lebanon are still used (as they were also in the twelfth century) to cool the sherbet drinks in summer.

Azanoth (Joshua xix, 34). Under this head is mentioned a village in the region of Dio Cæsarea (*Seffûrieh*) in the plains, so called. It has not been found.

Azeca (Joshua x, 10), is said to be "still a village between Jerusalem and Eleutheropolis" (*Beit Jibrîn*), but I never succeeded in finding it, though we inquired several times.

Azor or *Jazer* (Num. xxi, 32), "the limit of the city of Ammon, now called Philadelphia . . . . which is about 8 miles from it on the west." This seems to refer to the ruin *Sûr*, but is not in the right situation for Jazer, which is more probably the present *Beit Zar'a*. (*See* Jazer.)

Azotus (Ashdod) is said to be "non ignobile municipium"; it is now a small village.

Ailath (Elath), on the Red Sea, is said to be the station of the tenth Legion (*see* under Arnon).

Aialon (Joshua x, 12) is said to have been a "villa" east of Bethel

(*Khurbet 'Alia*), 3 miles distant. "But the Jews affirm that it is a village near Nicopolis (*'Amwâs*) in the second mile towards Jerusalem." The Jews were right, and referred to *Yalô*, but Jerome thus gives us a reference to the small ruined village of *'Alia*, otherwise unnoticed in ancient accounts. He distinguishes Aialon of Dan (Joshua xix, 42), which he places at Alus (*Yalô*) near Nicopolis.

Aemath, "now Amathus, a village beyond Jordan, in twenty-first mil from Pella towards the south" (Joshua xiii, 5); "and there is another village named Amatha, near Gadara, where hot waters burst forth." These sites are now called *'Amâteh*, in Gilead. Jerome rightly distinguishes both from Hamath in Syria.

Aenan (Genesis xxxviii, 14), "now a ruin, and near the great village of Thamna." Perhaps *'Ain 'Ainah*, near Tibneh (Timnah of Judah Jerome notes that the Jews did not consider the word עינים in the passage cited to refer to a locality. He says that at Aena, or Aenan, "stands an idol much venerated in this region," another indication of the Paganism of Palestine in the fourth century.[1]

Aenon, near Salim (John iii, 23), "at the eighth milestone south of Scythopolis (*Beisân*), near Salim and Jordan." We failed to find these names there extant. Probably *'Ainûn*, though further south.

Aphraim (Joshua xix, 19), "now Affarea, 6 miles from Legio (*Lejjûn* to the north." This identification is very probably the correct site for Haphraim, at the ruin now called *el Ferrîyeh*.

Acheldama, "south of Mount Sion," was shown apparently at the same site recognised in the twelfth century, now *Hakk ed Dumm* (Acts i, 19).

Accaron (Ekron), "still a great village" in the fourth century, but now quite small. Some wrongly identified Ekron in Jerome's time with Cæsarea.

Acrabbim (Joshua xv, 3). Under this head is added, "there is, however, a village, still large, 9 miles from Neapolis (*Nâblus*) to the east, going down to Jordan and Jericho thereby, called Acrabittene" (*'Akrabeh*, in Samaria).

Acsaph (Joshua xi, i) is wrongly identified with Chasalus (*Iksâl*), "8 miles from Dio Cæsarea, at the foot of Tabor in the plains" (Chesulloth); the Greek, however, reads Ἐξάδους (*see* Achaseloth).

Accho, "now Ptolemaïs," is Acre.

Amman, "now Philadelphia," is Rabbath Ammon.

Anab (Joshua xv, 50), "still a village, in the region of Eleutheropolis; and there is another large town (villa) of the Jews called Anea in Daroma, south of Hebron, 9 miles from it." The first is now *'Anâb*, the second perhaps *el Ghuwein*, the Anim of Joshua (xv, 50).

Anathoth, 3 miles from Jerusalem, *'Anâta*.

Aniel (Ἀνείρ), Joshua xix, 27, "is a village called Betœnea, 15 miles

[1] Felix Fabri speaks of an idol in the form of a black boy adored by Arabs in the Sinaitic desert at the close of the 15th century A.D.

from Cæsarea, in the mountain to the east, where are baths (lavacra), said to be salubrious." Apparently *'Anîn.*

Anim is identified rightly with an Anea (*see* Anab), now *el Ghuwein.* Jerome mentions that there were two Aneas: there are two Ghuweins (Upper and Lower) with Byzantine ruins. Jerome says, "all the inhabitants are Christians."

Anua (Joshua xix, 13). Under this head is mentioned "another village, Anua, in the tenth mile from Neapolis, towards Jerusalem." This is *'Ain 'Aina.* The Greek reads ιε (15) miles instead of 10, as in the Latin. The same place is called Anuath by Josephus (3 "Wars" iii, 5).

Astemœ (Joshua xv, 50), "a Jewish village in Dar(o)ma, north-east of the place Anem." This agrees with the positions of *el Ghuwein*, just noticed, and *es Semû'a.*

Anob (Joshua xi, 21). Two places are noticed under this head: Betho-annaba, 4 miles east of Lydda, and Bethannaba, 8 miles distant. These appear to be *'Annâbeh* and *Beit Nûba*, but the Bible site is probably Anab, already noticed.

Araba (Deut. i, 7). "There is another village, Arabas by name, in the district of Diocæsarea, which was formerly called Saphorine" (*Seffûrieh*), "and another 3 miles from Scythopolis (*Beisân*) to the west." The first of these is *'Arrâbeh*, the second is perhaps *'Arabôneh.*

Arad (Numbers xxi, 1) "is 20 miles south of Hebron," now *Tell 'Arâd;* and "4 miles from the town Malatha" (*Tell el Milh*).

Arbela. Two places are noticed under this head. Arbel, beyond Jordan, in the Pella region (now *Irbid*), and another in the great plain, 9 miles from Legio. This may be *Irbid*, west of the Sea of Galilee, though the distance does not agree. Perhaps *'Arabôneh*, on Mount Gilboa, is intended.

Arboc (Kirjath Arba). Under this head, Jerome speaks of the Oak of Mamre, "which was shown till the reign of Constantine, and the mausoleum can still be seen; and, when our people built the Church there, the place of the terebinth was superstitiously adored by all the people round about." This is mentioned also in Constantine's letter on the subject. The ruins of the chapel remain at *Râmet el Khalîl.*

Argob. Under this head a place is noticed, 15 miles west of Gerasa. Probably *Rujîb*, 20 miles west of Gerasa, is intended.

Area Atad (Gen. l, 10) is placed at Beth Agla (*Kusr Hajlah*), 3 miles from Jericho and 2 miles from Jordan. In the Bible it is placed "beyond Jordan," which is very difficult to understand, as the route from Egypt to Hebron, where Jacob was buried, would hardly seem to lie across the Jordan. The statement is repeated (Gen. l, 11). Josephus does not mention the episode.

Arisu. Under this head a village near Lydda, called Betariph, is noticed—perhaps *Deir Tureif.*

Ain (Joshua xv, 32), wrongly placed at Bethenim (*Beit 'Ainûn*), 2 miles from the terebinth of Abraham (*Râmet el Khalîl*).

Arith (1 Sam. xxii, 5). A village, Arath, west of Jerusalem, is mentioned, probably the ruin *Harâsh* near Koloniah.

Arisoth (Judges iv, 2). Under this head a village, Jabis (Yabis), is mentioned as "very great," lying between Pella and Gerasa. This is Jabesh Gilead (in *Wâdy Yâbis*); but no connection with the name of Jabin really exists, as Eusebius and Jerome suppose.

Arcem (Rekem), is identified with Petra, as in Rabbinical writings, and by Josephus. (*See* Petra.)

Armathem Sophim (1 Sam. I, 1), "in the region of Thamna, near Diospolis, whence was Joseph who is called of Arimathea in the Gospels." Apparently *Rantieh* is the place intended.

Arnon River. The name still survived in the fourth century, and a garrison at Areopolis is noticed under this head. In the Notitiæ ("Reland," 1, p. 231), they are said to have been the Equites Mauri Illyriciani, who also garrisoned Elath, where the Onomasticon places the Tenth Legion.

Aroer (Num. xxxii, 34) is rightly placed at *'Ar'aîr* on Arnon. The account seems to show that Eusebius had visited the country beyond Jordan, or received information from someone well acquainted with this region.

Asan (Joshua xv, 42). "There is still a village, Bethasan, belonging to Jerusalem, 15 miles from it." (The Greek gives ις', or 16.) The direction is not given. Perhaps *Beit Shennch.*

Aser (Joshua xv, 25) is wrongly placed at "a large village between Ascalon and Ashdod." This is, perhaps, a mistake. There is a ruin called *Yasîn* between the two towns, and a village, *Yasûr*, east of Ashdod.

Aser (Joshua xvii, 7). Under this head is noticed a village on the road from Neapolis to Scythopolis at 15 miles. This seems to point to *Teiasîr;* and the words "in decimoquinto lapide juxta viam publicam" are very explicit. There is a Roman milestone at Teiasîr on the road to Beisân from Nâblus at the required distance. This is the "town of Job" of the Bordeaux Pilgrim. The sacred place of the village is now called *Neby Tôba*, apparently Aramaic for "the good prophet." But perhaps *'Asîreh* is intended by Jerome.

Asthaol (Joshua xv, 33) is wrongly placed at Astho, between Ascalon and Ashdod. The latter is probably the ruin *Khasseh.*

Asion Gaber (1 Kings ix, 26), is placed at Essia on the Red Sea near Elath. The true site is probably *'Ain Ghudiân*, at the head of the salt marshes (once sea) north of Elath.

Astaroth (Deut. i, 4) is placed 6 miles from Adra, which was 25 from Bostra. Apparently *Tell 'Ashterah* is meant. Eusebius says there were two places in Bashan, so called, 9 miles apart, between Adra and Abila. Perhaps the second is *Tell 'Asherah.*

Asor (Hazor of Galilee). Under this head is noticed an Asor in the region of Ascalon to the east, now *Yasûr.*

Atharoth (Joshua xvi, 7). "Now a village 4 miles north of Sebaste." The modern *'Attâra.*

Atharoth (Joshua xviii, 13). Under this head Eusebius notices two places so called near Jerusalem. These occur on Sheets XIV and XVII of the Survey Map—*'Attâra* in each case.

Aulon (Deut. 1, 1, Septuagint), Jerome says, is not Greek, but Hebrew, for the Jordan Valley (אלון).

Apheca (Joshua xiii, 14). "But there is still a great castle, Apheca by name, close to (juxta) Hippos." This agrees with the discovery of Hippos at *Sûsieh* close to *Fîk*.

Aphra (Joshua xviii, 23), "is to this day the village Effrem, in the fifth mile from Bethel to the east." The site is now called *Taiyibeh*.

Achaseloth (Joshua xix, 18) is placed by Eusebius at *Iksâl* (*see* back, Acsaph). The writers seem confused about this site, and place it 8 miles from Sepphoris to the east. The real direction is southwards.

Achziph (Joshua xix, 29), correctly placed at *Ez Zib*, and said to be 9 miles from Ptolemaïs.

Achor (Joshua vii, 24) is placed north of Jericho, and the name is said still to have survived not far from Gilgal.

Baal (Joshua xv, 9), or Kirjath Jearim, is said to be a village on the road to Lydda, 10 miles from Jerusalem. The direction does not suit, as Josephus says the town was near Beth Shemesh, and no similar name occurs at this distance.

Bualthamar (Judges xx, 33), "still so called," near Gibeah. Since Gibeah is wrongly placed in the Onomasticon, apparently at Jeb'a, south-west of Jerusalem, the above may be the present *Beit Ummâr*, to the south of Jeb'a.

Bethacath (2 Kings x, 14), "not more than 15 miles from Legio," now *Beit Kâd*.

Bethel is placed 12 miles from Jerusalem (*Beitin*).

Bethsarisa (2 Kings x, 42) is placed 15 miles from Lydda, in the region of Thamna, to the north. This appears to be now *Sîrîsia*.

Bala (Zoar, Gen. xiv, 2), overlooking the Dead Sea, and said to be a station of Roman soldiers. Possibly *Tell esh Shaghûr*.

Balanus (Judges iv, 6), "in the suburbs of Neapolis, towards Joseph's tomb," is now *Balâta*.

Bathne (Joshua xix, 25), 8 miles from Ptolemaïs to the east, called in the fourth century Bethbeten; seems to be *El B'aneh*.

Baalmeon (Num. xxxii, 38). "Still a large village near Baaru in Arabia, where the ground produces natural hot springs," 9 miles from Heshbon. Now *M'aîn*, Baaru being (*see* "Reland," pp. 487, 611, 881) Machærus, and the hot springs those of the Zerka M'aîn.

Bezec (Judges i, 4). "There are still two villages named Bezec near each other, 17 miles from Neapolis, going down to Scythopolis." The ruin *Ibzik* occurs in the required position.

Bethsur (Joshua xv, 58). Rightly placed (20 miles) south of Jerusalem on the Hebron road, with a spring at the foot of the hills. (*Beit Sûr*), another place so named, a mile from Eleutheropolis, has not been found (perhaps the cave called *Sh'arah* might be meant).

Bethfogor (Joshua xiii, 20), 6 miles above Livias (near Nebo ; *see* Abarim).

Bethdagon (Joshua xv, 41). Correctly placed between Jamnia and Lydda, now *Beit Dejan.*

Bethabara (John i, 88), placed at the traditional site east of Jericho, where baptisms still occurred.

Bethagla (Βηθαλαΐμ). One village is noticed 10 miles from Eleutheropolis on the way to Gaza (now *'Ajlân*), and another, Bethagla Maritima, 8 miles from Gaza. Probably the second is the important ruin *Tell 'Ajjûl*, south of Gaza ; the distance is only 5 miles direct.

Bethana (Joshua xix, 38). "There is a town, Batanæa, 15 miles from Cæsarea, where the baths are said to be salubrious" (*see* back, Aniel), apparently now *'Anîn.*

Bethania (John xi, 1, 18), on Olivet, 2 miles from Jerusalem A church was there shown—the present cave chapel at Bethany (*El 'Azeir*).

Betharam or Livias, now *Tell er Râmeh.*

Bethsimuth (Joshua xii, 3). "There is still a village, Jsimuth, over against Jericho, 10 miles from it to the south, on the shore of the Dead Sea." Now the ruin *Suweimeh.*

Bethaun (Joshua xviii, 12), "some regard as Bethel."

Bethesda (John v, 2), placed at the "Twin Pools" in Jerusalem.

Bethoron (Joshua x, 10 ; 1 Kings ix, 17), correctly placed at *Beit 'Ûr*, 12 miles from Jerusalem, on the Nicopolis road.

Bethleem, the city of David. The tower Eder was shown a mile from the town.

Bethmacha (2 Sam. xx, 15). Under this head is noticed a place *Machamin*, 8 miles from Eleutheropolis, on the road going up to Jerusalem. Perhaps the ruin now called *Makhbiyeh.*

Bethamnaram (Num. xxxii, 36), 5 miles north of Livias, now *Tell Nimrîn*, correctly fixed.

Bethsames (Joshua xxi, 16). "Shown to those who go from Eleutheropolis to Nicopolis in the tenth mile towards the east," now *'Ain Shems.*

Bethsan (Joshua xvii, 11), "now called Scythopolis" is now *Beisân.*

Bethaphu (Βηθτάφον) (Joshua xv, 53). Said to be found 14 miles south of Raphaim (*Refâh*), on the way to Egypt and on the border of Palestine.

Bera (Judges ix, 21), north of Eleutheropolis 8 miles. Now *Bîreh.*

Bersabee (Beersheba). "Still a large village 20 miles from Hebron, towards the south, in which is a Roman garrison." The ruins of the Christian town still remain at *Bîr es Seb'a.*

Beroth (Deut. x, 6), of the Sons of Jacim, was shown 10 miles from Petra on the top of a mountain. This site is unknown, but agrees with the traditional Jewish view that Petra was Kadesh Barnea.

Beroth (Joshua ix, 17), on the way from Jerusalem to Neapolis (otherwise "Nicopolis"), "under the hill of Gibeon" at the seventh mile. Apparently *Bîreh* is intended.

Bosor (Joshua xx, 8) is fixed at Bostra—incorrectly; and Bosor of Edom (Isaiah lxiii, 1) correctly at *Buseirah* in Edom.

Bunos (Joshua v, 3), at Gilgal, 2 miles from Jericho. A stone was still shown said to come from the Jordan. The site is now *Jiljûlieh*.

Byblos (Ezekiel xxvii, 9). Gebal.

Gaas (Joshua xxiv, 30). The tomb of Joshua is said to have been still shown "near Thamna." Probably at *Kefr Hâris*.

Gabaath (Joshua xxiv, 33). A Gibeah 12 miles from Eleutheropolis is noticed, with the tomb of Habakkuk. Probably *Jeb'a*, south-west of Jerusalem, is intended, near which is the ruin *Habeik*.

Gabathon (Joshua xix, 44). Under this head are mentioned: (1) Gabe, 16 miles from Cæsarea—now *Jeb'a;* (2) *Gabatha*, near the plain of Legio —now *Jebâta*, north of the plain of Esdraelon; (3) *Gabaa*, and (4) *Gabatha*, villages east of Daroma, which are doubtful sites; (5) *Gabatha*, in Benjamin, *Jeb'a*, north of Jerusalem; (6) *Gabatha* of Judah; the ruin *Jeb'a*, south-west of Jerusalem, is intended.

Gabaon (Joshua ix, 3, xi, 19), near Ramah and Rimmon, 4 miles west of Bethel; now *El Jib*.

Gadara (Matt. viii, 28), with its hot baths, now *Umm Keis*.

Gadda (Joshua xv, 27), of Judah, "now a town in the extreme limits of Daroma, to the east above the Dead Sea." *'Ain Jidy* is intended.

Gadera (Joshua xv, 36), wrongly placed at *Jedûr*, "near the terebinth" (of Abraham).

Gaza, "where the Cappadocians dwelt, when the first inhabitants had been slain." The Philistines are apparently here called Cappadocians, according to a theory of their origin found elsewhere. "Still a famous city of Palestine."

Gazer (Joshua x, 33), 4 miles from Nicopolis; now *Tell Jezer*.

Gai (for Ai, Num. xxxiii, 44). Under this head *Gaia*, near Petra, is noticed. Probably now *El Jî*.

Gai (for Ai, Joshua xii, 2) is said to be "now only a ruin" near Bethan (Bethaven) and Bethel.

Gehennom (Joshua xv, 8), "near the wall of Jerusalem to the east," is apparently identified with the Kidron Valley.

Galgala (Joshua iv, 19, v, 2). "Still a ruin 2 miles east of Jericho" (*Jiljûlieh*), and another near Bethel (*Jiljilia*).

Gallim (1 Sam. xxv, 44, Isaiah x, 30). "There is said to be a village near Ekron called Gallaa." Evidently *Jîlia*, about 5 miles south of 'Akir.

Gasion Gaber (Num. xxxiii, 35, Deut. ii, 8), identified with Esiam ('Ασίαν), near Elath and the Red Sea. Probably the true site, *'Ain Ghudiân*, is intended, or else 'Akabah, called *'Asiûn* by Arab writers.

Gaulon (Deut. iv, 43), "a large village in Batanæa," is apparently *Sâhem el Jaulân*.

Gebal. Eusebius and Jerome deny that Ebal and Gerizim were at Shechem, and place them near Jericho.

Gahedur (Joshua xv, 58), wrongly placed at Gedrus, "a large village 10 miles from Diospolis going to Eleutheropolis"—now *Jedîreh*.

Geth (Joshua xi, 22). "Five miles from Eleutheropolis on the way to Diospolis." Apparently *Tell es Sâfi.*

Gettha (1 Sam. v, 8), placed between Antipatris and Jamnia, "but there is another village called Geththim." The latter may be *Jett* in Samaria; the former is unknown.

Getremmon (Joshua xix, 45). Placed 12 miles from Diospolis, on the way to Eleutheropolis—apparently the same as Geth. Now *Tell es Sâfi.*

Gethsemani (Matt. xxvi, 36). At the foot of Olivet, said to have a church. Probably the present Greek site.

Gelboe (1 Sam. xxviii, 4). Under this head the village Gelbus is noticed, 6 miles from Scythopolis. Now *Jelbôn.*

Gelgel (Joshua xii, 23). Placed 6 miles north of Antipatris. Apparently at *Kalkilieh.*

Gerara (Gen. xx, 1). Twenty miles south of Eleutheropolis. Now *Umm el Jerâr.*

Gargasi (Gergasenes) is placed by Eusebius and Jerome at Gerasa, or else at Gadara, but distinguished from Gergesa (Mark vii, 31), said to be "a little village near the Lake of Tiberias"—probably *Khersa.*

Gebin (Joshua x, 31). Placed at Geba, 5 miles from Guphna, on the way to Neapolis. Now *Jebîa.*

Golgotha is placed north of Sion.

Galgal (Deut. xi, 30), "near which were—as written—the mountains Gerizim and Ebal," is placed near Jericho (*Jiljûlieh*), and the Samaritans are said to be wrong in placing these mountains near Shechem.

Dabira (Joshua xii, 13). On Mount Tabor. Now *Debûrieh.*

Debon (Num. xxi, 30, xxxii, 34; Joshua xv, 2; Jer. xlviii, 18–22) is distinguished wrongly from Dibon near Arnon. Now *Dhibân.*

Dedan (Jer. xlix, 8) in Idumæa is placed 4 miles north of Feno.

Dan (Gen. xiv, 14). Four miles from Paneas towards Tyre. Now *Tell el Kâdy.*

Dannaba (Gen. xxxvi, 32). Said still to exist 8 miles from Areopolis towards the Arnon. The distance appears to be incorrect.

Another Dannaba is placed on Mount Phogor, 7 miles from Heshbon. The site is unknown, but seems to show that Phogor was supposed to be near Nebo.

Decapolis (Matt. iv, 25). The region round Hippos, Pella, and Gadara.

Dumah (Joshua xv, 52). A large village in Daroma, 17 miles from Eleutheropolis. Now *Dômeh.*

Drys (Abraham's oak at *Râmet el Khalîl*) is said to have been then much worshipped by the natives.

Dodanim (Joshua xxi, 13) is said to be near Areopolis.

Dothaim (Gen. xxxvii, 17; 2 Kings vi, 13). North of Sebaste 12 miles, now *Tell Dothân.*

Dornapheth (Joshua xi, 2), said to be 9 miles from Cæsarea Palestina on the way to Tyre. Now *Tantûrah.*

Engaddi (Joshua xv, 62; 1 Sam. xxiv, i), now *'Ain Jidy*, is said to produce opobalsamum.

Eglon, also *Odollam*. Placed 12 miles east of Eleutheropolis. Now *'Aid el Mia*.

Edomia (Joshua xviii, 17). Under this head is noticed Eduma in Acrabattene, nearly 12 miles from Neapolis to the east. Now *Ed Dômeh*.

Edrei (Num. xxi, 32; Deut. i, 4), placed at Adra, 24 miles from Bostra in Arabia. Now *Edh Dhra'a*.

Ether (Joshua xix, 7). "Now the large village *Jeththira*, in the interior of Daroma, near Malatha." The present *'Attîr*. (*See* Jether.)

Eleale (Num. xxxii, 3, 37; Isaiah xv, 4, xvi, 9). A mile from Heshbon. Now *El 'Al*.

Elthive (Joshua xix, 44). Placed at Tekoa, 9 miles south of Jerusalem. Now *Tekû'a*. The tomb of Amos was shown at this site.

Elul (Joshua xv, 58). Placed near Hebron, at *Halhûl*.

Emmaus (Luke xxiv, 13). Identified by Eusebius and Jerome with Nicopolis (now *'Amwâs*).

Eremmon (for En Rimmon). Placed 16 miles from Eleutheropolis to the south in Daroma. Now *Umm er Rumamîn*.

Ereb (Joshua xv, 52). Said to be in Daroma to the south, and called Eremiththa. Unknown.

Ermon (Hermon). (*See* back, Aermon.)

Esthaol (Joshua xix, 41). Placed 10 miles from Eleutheropolis, on the way to Nicopolis. Now *Eshu'a*.

Esthemo (Joshua xv, 50). "A very large village" in Daroma. Now *Es Semû'a*. (*See* Astemoe.)

Ephratha (Bethlehem). The tomb of Rachel is here said to be called "the hippodrome" in the LXX version (*see* Reland, "Pal.," p. 704). The Alexandrine text is followed, κατὰ τὸν ἱππόδρομον Χαβραθὰ τῆς γῆς, for בעוד כברת ארץ, "a little way." The site is called Cabra and Cabratha for the same reason (Gen. xxxv, 16, 19).

Ephron (Joshua xv, 9). Placed 20 miles north of Jerusalem.

Echela (1 Sam. xxiii, 19). Correctly placed at *Kilah*, 7 miles from Eleutheropolis. The tomb of Habakkuk is said to have been shown here (and the tomb of Micah according to others. "Mem." III, p. 316.)

Zannohua (Joshua xv, 34). Placed at a village near Eleutheropolis towards Jerusalem. Now *Zanû'a*.

Ziph (1 Sam. xxiii, 14, 15). Placed at *Tell ez Zîf*.

Zib. Placed 8 miles east of Hebron; appears to be the same with the preceding.

Zoara (Jeremiah xlviii, 34). "Now called Zoara or Segor." Apparently *Tell esh Shaghûr*.

Elath. Ten miles east of Petra. Apparently *Aila*, on the Red Sea, though the direction is scarcely correct.

Enadda (Joshua xix, 21). Under this head is noticed a town Ennadab, 10 miles from Eleutheropolis on the way to Jerusalem. Possibly *Beit Nettîf* is intended.

Enaim (Joshua xv, 34). Placed at Bethemin, near the Terebinth. Probably *Beit 'Ainûn*. The identification is incorrect.

Engaddi (as above, Gadda), at *'Ain Jidy*.

Enganni (Joshua xix, 21). Under this head a town called Enganna, near Gerasa, is noticed, evidently *'Ain Jennah*, north-west of Gerasa.

Enganim (Joshua xv, 34). Wrongly placed near Bethel. Perhaps *'Ain Sinia* is meant.

Endor (Joshua xvii, 11), *see* Aendor.

Thaanach[1] (Joshua xvii, 11), near Legio, a large village, 3 miles away. Now the small village *et Taanuk*.

Thabor is placed 10 miles east of Diocæsarea (Seffûrieh). Now *Jebel et Tûr*.

Theman (Gen. xxxvi, 11). "Still a village 5 miles from Petra." Unknown.

Thalcha (Joshua xix, 7; LXX, trans.), in Simeon. A place 16 miles south of Eleutheropolis called Thella is noticed as a large village. Perhaps *Tell Abu Dillikh*.

Thamna (Gen. xxxviii, 12; Joshua xv, 57), rightly placed at *Tibneh*, in the Lydda region on the way to Jerusalem (the southern site so called).

Thamnath Sara (Joshua xxiv, 30), where Joshua's tomb was shown (*see* Gaas); apparently *Kefr Hâris* is the site intended.

Tharsis (Tarshish). Said to be identified by Josephus with Tarsus (*see* Ant., ix, 1-4) and by the LXX with Carthage. Some had suggested India.

Thersila (2 Kings xv, 14, Tirzah), a Samaritan village in Batanæa, so called, is mentioned.

Topheth (Jer. vii, 32). The name is said still to have survived in the fourth century near Aceldama.

Thaffa (Joshua xii, 17; xv, 34), *see* Bethtaphu.

Thebes (Judges ix, 50-53). Placed on the way from Neapolis to Scythopolis at 13th mile. Now *Tubâs*.

Thenath (Joshua xvi, 6), east of Neapolis 10 miles. Now *T'ana*.

Jarimuth (Joshua x, 3). Placed 4 miles from Eleutheropolis, near Esthaol (*see* Jermus). Now *el Yermûk*.

Jabis Galaad (Judges xxi, 8). Placed 6 miles from Pella on the mountain towards Gerasa. The name survives in *Wâdy Yâbis*; the site is doubtful.

Jaboc River (Gen. xxxii, 23), now *Nahr es Zerka*.

Jazer (Num. xxi, 32). Placed 15 miles from Heshbon, "where a great stream bursts out received by Jordan." Apparently *Sâr* (*see* Azor).

Jamnel (Joshua xix, 33), placed at *Yebnah*.

Janum (Joshua xv, 53). A village, Janua, is noticed 3 miles south of Legio, now *Yamûn*.

Jano (Joshua xvi, 6; 2 Kings xv, 29). "A village, Jano, is still shown in Acrabattene, 12 miles east of Neapolis." Now *Yanûn*.

[1] Mentioned again as Thanæ, or Thaanach, and placed "in the fourth mile from Legio."

Jafthie (Joshua xix, 12), "still called Joppa"—now *Yâfa*, near Nazareth. Under this head Epha (*Haifa*) is noticed as identical with Sycaminum (*Tell es Semak*).

Jedna, 6 miles from Eleutheropolis towards Hebron—now *Idhnah*.

Jezreel (Joshua xix, 18), "still a very large village between Scythopolis and Legio." Now *Zerî'n*.

Jether (Joshua xv, 48). Placed at the "very large village Jethira," 20 miles from Eleutheropolis: "all its inhabitants also are Christians." Now *'Attîr* (*see* Ether).

Jericho. Three successive towns are noticed, one still standing, with ruins of the others.

Jermus (Joshua xv, 35), *see* Jarimuth. Under this head the later name is correctly given as Jermucha (*el Yermûk*), but it is here placed 10, instead of 4, miles from Eleutheropolis, which is more correct.

Jassa (Num. xxi, 23) "is still shown between Madeba and Dibon." Unknown.

Jetan (Joshua xv, 55). "A very large village of Jews," 18 miles from Eleutheropolis southwards in Daroma. *Yuttah* seems to be intended.

Ituræa and *Trachonitis;* under this head Trachonitis is said to be the land near the desert of Bostra.

Cades (Num. xxxiv, 4). The tomb of Miriam is said still to have been shown here. It is placed in the desert near Petra as by Jewish tradition.

Camon (Judges x, 5), supposed to be Cimona, 6 miles from Legio to the north, towards Ptolemaïs. Now *Tell Keimûn*.

Cana, near Sidon (Joshua xix, 28), now *Kâna*.

Canath (Num. xxxii, 42), "now Canatha." *Kanawât* in Bashan.

Cariathiarim (Joshua xv, 10), 9 miles from Jerusalem on the way to Diospolis. The position is doubtful, as well as the identification.

Cariathaim (Joshua xiii, 19), "a Christian village very flourishing, near Medaba." Now the ruin *Kureiyât*.

Carcar (Judges viii, 10), a day's distance from Petra.

Carmelus (Joshua xv, 55), 10 miles from Hebron, now *Kurmul;* and another Carmel (Mount) dividing Phœnicia from Palestine, now *Jebel Kurmul*.

Carnaim, Ashtoreth (Gen. xiv, 5), "in a corner of Batanæa, a village called Carnæa," "where they say was the house of Job" (now shown at *Sheikh S'ad*). The writer mentions another Carnæa, 9 miles from Jerusalem, but in what direction is not stated.

Capharnaum (Matt. iv, 13), "by the Lake of Gennezar." It is placed (*s.v.* Chorazaim), 2 miles from *Kerâzeh*, and in the fourth century was placed (but perhaps wrongly) at *Tell Hûm*.

Cedes of Naphtali (Joshua xxi, 32), "now called Cydissus, 20 miles from Tyre, near Paneas." Probably *Kades* in Upper Galilee. There is, however, another site in this region called *Kadeisa*.

Cedron (2 Sam. xv, 23), east of Jerusalem. Now *Wâdy en Nâr*.

Ceila (Joshua xv, 44), "nearly 8 miles east of Eleutheropolis, where is

shown the grave of the prophet Habaccuc." Now *Kilah*. The site of the tomb now called *Neby N'amân* ("Memoirs," III, 316) is the tomb of Micah, 28 stadia from Keilah. The tomb of Habaccuc has been noticed as near Gabaath, north-east of Keilah.

Cison (Judges iv, 13), near Tabor. The true head of the present *Nahr el Mukutta'*.

Lebna (Joshua x, 29), "now a village in the region of Eleutheropolis." Probably *Beit el Bân*, but whether this is Libnah is doubtful.

Laisa (Judges xviii, 7, 29), "near Paneas," probably now *Tell el Kâdy*.

Luith (Isaiah xv, 5), "still a village between Areopolis and Zoar, called Luitha." The name seems to survive in *Tal'at el Heith* on Nebo.

Luza (Joshua xvi, 2), "near Shechem, 3 miles from Neapolis," apparently *Lôzeh* on Gerizim.

Luza (Gen. xxviii, 19), east of the road from Neapolis to Jerusalem, is placed apparently at Bethel.

Lochis (Λαχις, Joshua x, 3), "now a *villa* 7 miles from Eleutheropolis going to Daroma." *Tell el Hesy*, which was still an inhabited site in 4th century A.D.

Magdiel (Joshua xix, 38), "a small village 5 miles from Dora, on the way to Ptolemaïs." Unknown.

Matthane (Num. xxi, 18), "now called Masechana, 12 miles east of Medaba, on the Arnon."

Maceda (Joshua x, 10), "8 miles east of Eleutheropolis." The position is unsuitable.

Maon (Joshua xv, 55), "east of Daroma." Now *M'âin*.

Maresa (Joshua xv, 44). "Two miles from Eleutheropolis." Now *Mer'ash*.

Masapha (Joshua xiii, 26). "There is now another Maspha in the region of Eleutheropolis, to the north." Unknown.

Machmas (1 Sam. xiii, 2, 5), "still a large village, 9 miles from Jerusalem, near Rama." Now *Mukhmâs*.

Medaba (Num. xxi, 30), near Heshbon. Now *Mâdeba*.

Mennith (Judges xi, 33), "4 miles from Esbus, going to Philadelphia." Unknown. It may be the present *Minyeh* further south.

Merrom (Joshua xi, 5). "There is another Merrus, 12 miles from Sebaste, near Dothan."

Medemena (Joshua xv, 31). Placed at "Menois, a town near the city Gaza." Apparently *El Mîneh*, the port of Gaza, but wrongly identified. The name seems to survive at *Umm Deimneh*, north of Beersheba.

Mephaath (Joshua xxi, 37), wrongly said to be in Benjamin. "But there is another beyond Jordan, where is a garrison of Roman soldiers, near the desert." This might be the real site, but is unknown.

Modim of the Maccabees, "near Diospolis." Now *el Medyeh*.

Morasthi (Micah i, 14), apparently Maresa, placed "east of Eleutheropolis."

Naaratha (Joshua xvi, 7), "now Naorath, a village of Jews, 5 miles from Jericho." Appears to be the ruin now called *El 'Aujeh*.

Nabau (Nebo, Deut. xxxii, 49), "6 miles from Heshbon, in the east region." Now *Jebel Neba*. Under the next heading, *Nabo*, it is said to be a "deserted place," 8 miles south of Heshbon.

Nazareth, "15 miles from Legio, near Tabor, towards the east." Now *en Nâsirah*.

Naim (Luke vii, 11), "2 miles from Tabor to the south, near Endor." Now *Nein*.

Nepheddor (Joshua xi, 2; xii, 23). "Dor is a town, now deserted, 9 miles from Cæsarea going to Ptolemaïs"; apparently *Tantûra* is meant, but the identification causes confusion in the Bible topography.

Nemerim (Isaiah xv, 6). "Now a village called Benmamarim, north of Zoar." *Tell Nimrîn*.

Nemra of Reuben (Num. xxxii, 3), wrongly placed at Namara, in Batanæa.

Neela of Zebulon (Judges i, 30). "There is still a village Neila in Batanæa." This has no connection.

Neesib (Joshua xv, 43). "Now Nasibi, 7 miles from Eleutheropolis on the way to Hebron." *Beit Nusib*.

Ulammaus. "There is a certain village called Ulamma, 12 miles from Diocæsarea to the east. Now *'Aulam*.

Petra is identified with Jectael (2 Kings xiv, 7) and said to be called Recem by the Syrians (*see* Arcem).

Rabbath (2 Sam. xi, 1). "Now Philadelphia." The present ruin *'Ammân*.

Rabboth (Joshua xix, 21). "There is still another *villa* Rebbo in the region of Eleutheropolis to the east." Now the ruin *Rubba*.

Rama (Joshua xviii, 25). "To the north over against Bethel." Now *Er Râm*.

Rammoth of Gad (Joshua xx, 8). "Now a village 15 miles from Philadelphia towards the east." *Remtheh* seems intended.

Rephaim Valley (Joshua xvii, 5). "South of Jerusalem."

Reblathah (2 Kings xxv, 6). Wrongly placed at Antioch. It is now *Ribleh*.

Remma (2 Kings v, 18). "There is also a village Remmus in Daroma." Now *Umm er Rumamîn*.

Remmoth Galaad, "near the River Jaboc" (Joshua xxi, 38). Apparently the village *Reimûn*—the true site.

Remmon (Joshua xv, 32). "There is still a village Remmon near Jerusalem to the north 15 miles distant." Now *Rummôn*.

Rhinocorura (Isaiah xxvii, 12). "Added by the Septuagint interpreters." Now *El 'Arîsh*.

Ruma (Judges ix, 41). "Now Remphis, in the region of Diospolis, and by many called Arimathea." Now *Rentis* or *Rantieh* (*see* Armathem Sophim).

Roob (Num. xiii, 21). "There is still a village Roob 4 miles from Scythopolis." Now *Tell er Rehâb*.

Rohoboth (Gen. xxxvi, 37). "Still a garrison in Gabalena, and a large village." *Ruheibeh*, south of Beersheba, seems intended.

Saalim (1 Sam. ix, 4) is placed "in the region of Eleutheropolis to the west 7 miles distant." Perhaps *Summeil.*

Salabim (Joshua xix, 42). "A large village in the region of Sebaste named Salaba."

Salem, "which is Shechem." Two places are noted: (1) near Jerusalem to the west; (2) 8 miles from Scythopolis, in the plain called Salumias. Perhaps *Deir Sellâm.*

Samaria. "Now called Sebaste." *Sebustieh.*

Saara (Joshua xv, 33). "About 10 miles north of Eleutheropolis going to Nicopolis." Now *Sur'ah.*

Sarepta (1 Kings xvii, 9). "On the high road." Now *Sarafend*, near Sidon.

Saron (Isaiah xxxiii, 9). "The region between Mount Tabor and the Lake of Tiberias is still called Sarona." The ruin *Sarôna* here exists (Biblical Lasharon), but is not the Bible Sharon.

Saphir, "between Eleutheropolis and Ascalon." Now *Es Suwâfîr.*

Senna (Num. xxxiv, 4). "There is still a Magdal Senna, 7 miles north of Jericho." Unknown.

Sephela (Isaiah xxxii, 19). "All the region near Eleutheropolis, plain and field, to the north and west." The Hebrew word still survives here in the name of the village *'Allâr es Sifleh*, "the lower 'Allâr."

Selo (Joshua xviii, 1). It is 10 miles from Neapolis in Acrabattene." Now *Seilûn.*

Sicelag (Joshua xv, 31). "In Daroma," perhaps *'Aslûj* is meant.

Seon (Joshua xix, 19). "Still is shown, a *villa* near Mount Tabor." Now *'Ayûn Sh'aîn.*

Sior (Joshua xv, 54). Wrongly placed between Jerusalem and Eleutheropolis.

Soccho (Joshua xv, 35). "Two villages, one in the mountain, one in the plain, are called Socoth, 9 miles from Eleutheropolis going to Jerusalem, on the high road." Now *Shuweikeh.*

Someron (Joshua xi, 1). "They say is Sebaste where the relics of St. John Baptist are kept." This confuses the site with that in 1 Kings xvi, 24, for the city Samaria was not built till late in history.

Sunem (Joshua xix, 18) "is still a village called Sulem 5 miles from Tabor to the south." Now *Sûlem.*

Sichar (John iv, 5). "Near the field which Jacob gave his son Joseph," "where there is now a church." The true site at *'Askar* may be intended. The church would be that at Jacob's Well. The church is not noticed in the Greek, which gives an approximate date for its erection. Shechem, "now deserted," is placed in the next article at this same spot, not at Neapolis itself, but this appears incorrect.

Sonam (Joshua xix, 8). "There is a village in the region of Sebaste in the Acrabattene district called Sanim." Perhaps *Sâlim.*

Sorech (Judges xvi, 4). Near Estaol. Now *Surîk.*

Trachonitis, "or Ituræa," is placed between Bostra and Damascus, including the modern *Lejah* region.[1]

Fathura (Num. xxii, 5; Deut. xxiii, 5). "There is near Eleutheropolis a certain *villa* called Fathura on the Gaza road."

Faran (Gen. xiv, 6). "Now a town across Arabia in the desert where the Saracens wander. . . . Three days from Aila to the east" (the Greek says "west"). Apparently *Wâdy Feirân* is intended, which was identified with Paran in 390 A.D. (*See* Choreb.)

Fenon (Num. xxxiii, 42). "Now a little village in the desert, where the convicts dig for copper, between Petra and Zoar." Unknown.

Fogor (Num. xxiii, 28). "There is another villa Fogor not far from Bethlehem." Now *Beit Faghûr*.

Chasalon (Joshua xv, 10). "A large village in the Jerusalem region." Now *Kesla*.

Charran (Gen. xi, 31), "now Charra," the present *Harrân* beyond the Euphrates, near Edessa.

Charchamis (Isaiah x, 9), "beside the Euphrates." Now *Jerâblus*.

Chasbi (Gen. xxxviii, 5), "now a ruined place near Odollam." This I place at *'Ain Kezbeh*.

Chasalath (Joshua xix, 12), near Tabor. Now *Iksâl*.

Chennereth (Deut. iii, 17), identified with Tiberias.

Chetthiim (Gen. x, 4). Identified with Kition in Cyprus.

Chobaa (Gen. xiv, 15). This is identified with a village, Chobaa, inhabited by Ebionite Christians, who observed all the Law. Probably the Cocaba (Euseb., H.E.I., vii, 15), now *Kaukaba* in the Jaulân, where the Ebionites lived, is intended. The Ebionites are here said to have been Jewish converts, and Jerome says that this heresy is condemned in the Epistle to the Galatians.

Chorazain (Matt. xi, 21), "now a ruin 2 miles from Capharnaum." *Kerâzeh* is intended.

Choreb (Exodus iii, 1). In this article Pharan is placed near Sinai.

Or (Mount Hor, Num. xx, 25). "At the city Petra, where still is shown the rock whence Moses, striking it, gave the people water." This is because Kadesh was identified at Petra. It accounts for the modern name, *Wâdy Musa*, "the Valley of Moses," and the stream flowing from a narrow gorge is supposed to have been that which Moses produced.

This list of 300 sites known to the authors of the "Onomasticon" shows a very complete knowledge of the topography of the Holy Land as it existed in their time; and the large majority of the sites have been recovered, many being identified for the first time during the course of the Survey, 1872–1882. It is however to be remarked that the distances as a rule, except along Roman roads with milestones, are approximate only; and in some cases there are errors in copying, as is shown by the

[1] Lejah is generally translated "crevices": but I find that among the north Syrians the word is used for "basalt." It thus answers to the foreign term "Trachonitis."

fact that the Greek and Latin do not agree. The "Onomasticon" cannot be received as authority for identification, because its suggestions in many cases are irreconcilable with the Bible. In many cases, however, Jerome appears to accept Jewish traditions, which are sometimes correct. The work is interesting, as indicating the Roman garrisons; the mixed population—Jewish, Christian, and Pagan; the convict miners; the survival of temples in remote places; the native superstitions; and the early date of churches like those of Bethel and at Jacob's Well; with other points which have been noted. The greatest value lies, however, in its witness to the survival of the Hebrew nomenclature of the country in the fourth century, even more perfectly preserved than now.

SOUTHAMPTON.

THE DATE OF THE EXODUS.

I.—By Captain A. E. HAYNES, R.E.

WITH the great progress that we have made in the knowledge of the history and condition of the peoples of the Old Testament, it is necessary occasionally to pick up and group our results and see whither they have led us. This operation, though very necessary, is not altogether an easy one for the casual student: for as the range of facts widens it is more difficult to take anything but a partial view of them; and in many cases, it is feared, our assumed facts are but fictions. However, the process is fascinating enough; and, though one must endeavour to control within reasonable limits the tendency to outrun our facts in the deductions we make, yet some boldness may perhaps be forgiven and even welcomed, as summoning a greater and wider interest, and thus leading to the correction of its errors by increased research.

Amongst the most useful advances in our knowledge of ancient history are the chronologies of the dynasties and kings of Egypt which Professor Petrie has put into the final chapter of his "History of Egypt from the Earliest Times to the XVI Dynasty." The following table gives the dates of the first nineteen dynasties; and in studying it and using it, we must remember—what Professor Petrie stoutly insists on—that he does not vouch for it any absolute accuracy, but that for the earlier parts of the scale only he claims an approximation within a century of the actual date. This, however, matters little, while his scientific comparison of the accumulated data gives warrant for a confidence in the tables that has not hitherto been obtainable in the very varying chronologies of older works:—

Duration of Dynasties in Years.		Dynastic Periods in Years.
		B.C.
Dynasty I.	263	4777–4514
,, II.	302	4514–4212
,, III.	214	4212–3998
,, IV.	277	3998–3721
,, V.	218	3721–3503
,, VI.	180	3503–3322
,, VII.	70	3322–3252
,, VIII.	146	3252–3106
,, IX.	100	3106–3006
,, X.	185	3006–2821
,, XI.	43	2821–2778
,, XII.	213	2778–2565
,, XIII.	453	2565–2112
,, XIV.	184	2112–1928
,, XV.	260 (Hyksos Dynasty)	1998–1738
,, XVI.	190	1928–1738
,, XVII.	151	1738–1587
,, XVIII.	260	1587–1327
,, XIX.	.. ..	1327

The salient points of Egyptian ancient history as covered by the above dynasties are tolerably clear to us. The ruling class of native Egyptians appear to have come from the far south—from Punt—and to be kin with the Phœnicians of Syria (*vide* Petrie's "History of Egypt," pp. 12–14); and in the periodical revivals of the native power the motive force always comes from the south, even as it would now were the protection of Europe withdrawn from the Egyptian Government. From the first to the sixth Dynasties we see the native rulers moving from Thinis on the Upper Nile, where the seat of government is first fixed, to Memphis where this period reaches its highest development during the IV Dynasty. It was then that the Pyramids were built, and art took the grandest form it has ever achieved and essayed a rivalry with nature itself. A gradual declension followed, and during the VII–X Dynasties the seat of government moves southwards to Herakleopolis, and we see through the mists of an imperfect record signs of foreigners ruling in Lower Egypt. The sway of the chief Khyan—about 3100 B.C., a contemporary of the IX Dynasty, whose statue (the lower half of it) was found at Bubastis—extended to Bagdad, and probably controlled the countries between Euphrates and the Nile. In the IX Dynasty we see a revival of the native rulers extending their dominion and pushing the seat of government northwards, to culminate in the blaze of energetic splendour which marks the XII Dynasty centred at Beni-Hassan. This period is again followed by a retreat up the Nile before the invading power of the Hyksos; and for 500 years the native kings of Egypt exist mainly by sufferance and as viceroys of their conquerors. The close of the XVII Dynasty brings a revival, and again we

see the power of the Egyptian kings at its zenith during the XVIII Dynasty; when the arms of the Pharaohs penetrated far into Asia, and for a time the dwellers on the Nile had no rivals in the known world.

Throughout the ages Lower Egypt appears to us as the very hotch-potch of races, and we have evidence of the settlement of Arabian and Arab-Semitic peoples in the Delta side by side with the Phœnicians and Egyptians. This mixture of race seems to have led to the oft recurring influx of aliens, and to the ease with which they established themselves there to the temporary exclusion or subjection of the inhabitants proper.

The coincidence of the period of Hyksos dominion in Egypt, with the approximate date of the migration of Joseph and his kindred into Egypt as given by our biblical chronology, and the fitness of the times for an influx of Semitic people into the Delta, have resulted in a general agreement amongst students that these events were contemporary.[1] But while it is universally accepted that the migration of the Hebrews to Egypt, and their sojourn there, took place during the rule of the Hyksos and their immediate successors of the XVIII Dynasty—under which successors the Oppression took place—there is much uncertainty and disagreement about the date of the Exodus. This is but natural when one considers the much greater certainty with which a period of some hundreds of years can be identified in the history of two neighbouring kingdoms, the records of which have been preserved, than the determination of any actual synchronism of a date, the events of which have apparently missed all record by one of those nations. While deprecating any idea that one can point to the exact year in Egyptian chronology for the date of the Exodus, it is possible to show that the evidence daily accruing points with peculiar and increasing persistency to one period of Egyptian chronology as the period in question, in preference to the other (the times of the XIX Dynasty), which has had strong advocates from the times of Manetho[2] to that of Brugsch. Taking the chronological data of the Variorum Bible as our guide, we are able "with much confidence to accept" the explicit statement of 1 Kings xv, 1—that Solomon's temple was begun in the 480th year after the Exodus. Professor Sayce has shown in "The Higher Criticism and the Monuments," chap. vi, that the chronology of the Book of Kings is some 50 years in excess, and that the (p. 322) date of the beginning of King Solomon's reign may not be put earlier than 962 B.C. Since King Solomon's temple was commenced

[1] The record of a seven years' famine in Egypt during the XVII Dynasty has been found on the tomb of a certain Baba in Upper Egypt, and has been used to support the suitability of the time of the Hyksos for the migration of Israel to Egypt.

[2] The account given by Manetho is not free from ambiguity, and although it appears to indicate that the Exodus took place in the XIX Dynasty, yet many of his genealogical notes are so imperfect and opposed to the other records which have come down to our time, that it is not safe to put much reliance in this single-instance testimony, although it has controlled the opinions of many Egyptologists for the last 100 years.

in the third year of his reign, from the foregoing data we get the approximate date of the Exodus as 1440 B.C., which, it is the object of this paper to show, agrees with the ruling conditions of that event as far as they are known.

This date throws the Exodus into the XVIII Dynasty, about 150 years subsequent to the expulsion of the Hyksos. Such an interval agrees with the Biblical statement, for we are told that Moses was 80 years old at the time of the Exodus—which gives an interval of 70 years between the expulsion of the Hyksos and Moses' birth. It is scarcely probable that the Oppression of the Israelites commenced immediately after the expulsion of the Hyksos; it would rather have been the policy of the Pharaohs to establish their newly-fledged power by a period of moderation, after which, the Empire being consolidated, and the new order confirmed, rein might be given to their desire of revenge against the "miserable" Asiatics and their compatriots the Hebrews, who had ruled over them for four or five hundred years. That the period referred to in the first chapter of Exodus is not a short one, is clear from the account of the building of the store-cities, and the statement in verse 20 that "the people multiplied, and waxed very mighty." Thus the interval of 150 years between the expulsion of the Hyksos and the Exodus, would appear to be in agreement with the Scriptural narrative.

When we come to the detailed history of the XVIII Dynasty, we are met with an absence of all clear reference to any such occurrences as are given in the Bible concerning the events which accompanied the Exodus The following table gives the dates of the kings of the XVIII Dynasty as calculated by Professor Petrie. Though there is some obscurity as to the latter four kings, the date of the remainder may be taken as probably correct, to a margin of error of five or ten years.[1]

	B.C.	B.C.
Aahmes I..	1587–1562	1557
Amenhotep I	1562–1541	1532
Tahutmes I	1541–1516	1511
Tahutmes II	1516–1503	1490
Hatshepsut	1503–1481	1478
Tahutmes III	1481–1449	1456
Amenhotep II	1449–1423	1424
Tahutmes IV	1423–1414	1406
Amenhotep III	1414–1383	1397
Amenhotep IV (Khu-en-atn)	1383–1365	1360
Rasmenkhka	1365–1353	1348
Tutankhamen	1353–1344	1339

[1] The corrections necessitated in Professor Petrie's chronology by astronomical considerations are given side by side in the text, with his dates of the various kings. *Vide* "Some Considerations regarding Professor Petrie's Egyptian Chronology," D. R. Fotheringham, in "Proceedings of the Society of Biblical Archæology," March, 1896, pp. 99–102.

	B.C.	B.C.
Ay	1344–1332	1327
Horemheb	1332–1328	1315
Ramessu I	..	1310
Sety	..	1308
Ramessu II	..	1257
Merenptah	..	1190

The date of 1440 B.C. falls during the reign of Amenhotep II, successor of the brilliant Tahutmes III, the Alexander the Great of Egyptian history. If Amenhotep was the Pharaoh of the Exodus, then Tahutmes III and his immediate predecessors were the Pharaohs of the Oppression. There are recorded fifteen expeditions into Asia during the reign of Tahutmes III; and the triumphs which appear to have attended each, doubtless resulted in the transportation to Egypt of vast numbers of captives, amongst whom would be many of Semitic race. These captives (as we learn in Brugsch's "Egypt under the Pharaohs," p. 172) were employed in public works, and principally in the great imperial edifices, such as the Temple of Amen: they were forced to labour under the superintendence of overseers (Rois) who had to carry out the orders and directions of the king's chief architect. After the death of Tahutmes III a spirit of independence seems to have risen up in Asia, and Amenhotep[1] II conducted an expedition into the country. This expedition was carried on as a war of vengeance in the fullest sense of the term, and the Pharaoh appears to have acted with cowardice and barbarity. The power of the king and government appears during this reign to have suffered considerable diminution, and the monuments that remain are neither many nor important; and it is during such a period that we might expect that the departure of the Israelites would be effected.

Taking the birth of Moses 80 years before the Exodus, as in 1520 B.C., we see that this would have occurred in the reign of Tahutmes I. We know that during the later part of this reign the king's daughter Hatshepsut had a share in the government; and she seems to have gathered the reins of power into her hands completely during the reign of the next monarch, her brother and husband. Whether or no this, the Amazon Queen, were the princess who saved the child Moses from the waters of the Nile, and brought him up in the king's palace, it is, of course, impossible to say; but it seems probable, and her name, Thermutis—as Josephus has it—may be identified with Tahutimes (Tahuti's[2] child), the family name of King Aahmes, his Queen Aah-hotep, and their descendants of the XVIII Dynasty. The circum-

[1] Amenhotep is the name of the Pharaoh under whom—according to the historian Manetho—the Exodus took place; but there are several Pharaohs of that name in the Egyptian Dynastic lists.

[2] Tahuti was the God of Science, Art, and Astronomy, who dwelt in the moon.

stamped account given by Josephus of the campaign against the Ethiopians, in which Moses led the Egyptian armies, might suitably be connected with the joint reigns of Hatshepsut and Tahutmes II, or of Hatshepsut and Tahutmes III. The account of Moses marrying the Ethiopian Princess receives some support from the reference to his Ethiopian wife in Numbers xii., and the verse 22, Acts vii. seems also to testify to his prowess and attainments in the departments of science presided over by the god Tahuti.

The records of Karnak show that in one of the expeditions of Tahutmes III. he penetrated into the hill country of Palestine, and found the tribes of Jacob-el and Joseph-el domiciled there. These, with the other inhabitants, were subjected to the Egyptian arms, and the country was secured by garrisoning the principal towns with Egyptian troops under Egyptian or other loyal governors. That such tribes—for apparently these must be connected with the Abrahamic peoples—were domiciled in the land of Canaan before the Exodus, is at first sight difficult of explanation; but in the light of modern criticism it is not impossible to find a solution. In the "Nineteenth Century," April, 1894, Professor Cheyne stated—and the statement has the support of Kittel and Kuenen—that Isaac, Jacob, Israel, and Joseph are tribal names, the legends concerning which embody, to some extent, tribal reminiscences. If this is correct, and the names Jacob and Joseph, &c., apply not merely to individuals, but to tribes which may be scattered in various parts—as, for instance, are the Bedus of South Africa, and the Terebin Bedouin of Egypt and Syria—the difficulty created by their presence in two places at the same time is at once dispelled. The Scriptural history of the times of Joseph shows us that Israel was then cloaved into two distinct and antagonistic parties—Joseph, and the sons of Jacob—the two divisions that Tahutmes III found in Palestine. Again, it is not improbable that the migration into Egypt was but a partial one, and, as in the case of Abraham's departure from Haran, to which he afterwards had to send his son to choose a wife *of his own kin*, representatives of the race were left behind in Canaan. Indeed, the Scriptural narrative would lead us to believe that such were the case; for we know that the burial ground at Hebron continued to be used by the Egyptian Colony of Israel; and the Bible records that Jacob (and, according to Josephus, all his sons except Joseph) was buried there; which evidently implies that throughout this period Hebron continued in the hands of the descendants of Abraham, i.e., of representatives of Joseph and of the sons of Jacob. Hence, whether or no we accept Professor Cheyne's statement, *the probability that there were settled in Canaan representatives of the tribes of Joseph and Jacob while Israel was in Egypt is well established.* In this connection, the records of Manetho and Cheremon, as transcribed by Josephus, are interesting. They show that the Egyptian Jews at the Exodus received assistance from their brethren in Canaan. Manetho says the army that came to their relief and occupied Pelusium (Sin or Avaris) consisted of 200,000 men, and Cheremon puts it at 380,000.

Though the numbers, in light of ancient records of the strength of armies in those days, appear hopelessly exaggerated, yet the record of this contingent to assist in securing the retreat of the Israelites from Egypt is remarkable, and possibly finds confirmation in the Bible, in the record of the assistance rendered to Moses by the Abrahamic people of Midian, and the Kenites, &c.

For further testimony in support of the date that chronology gives us for the Exodus, we must now look at the clay tablets of Tell Amarna, in which is to be found much information concerning the condition of the East about the time of the Exodus. These tablets or letters, to the number of 320, have, as is well known to the readers of the *Quarterly Statement*, been translated and published in a collected edition by Major Conder. They belong to the reigns of Amenhotep III and Amenhotep IV (Khu-en-atn) (1414–1365 B.C. or 1397–1348 B.C.), *i.e.*, from about 50 to 100 years after the Exodus. They describe the country of Syria as prey to internecine war. In the north the Amorites and Hittites were making war on Egypt's allies, the Phœnicians. In southern Palestine, in the reign of Amenhotep IV (Khu-en-atn), the garrisons which had been established in the hill-country of Judea in the reign of Tahutmes III *i.e.*, before the Exodus were being withdrawn, and the strongholds left to defend themselves as best they could: and at the very moment the district was being invaded by a people, styled in the tablets Abiri (identified by Colonel Conder with the Hebrews), who appear to have been received by the inhabitants with welcome, and who possessed themselves of Jerusalem and the neighbouring strongholds, even invading the low country of Philistia where Egypt's chariots secured the supremacy of that power. At this time the Empire of the East was divided between the ruling powers of Egypt, Assyria, Babylonia, and Mitanni, which were amicably disposed towards each other, and seem to have paid but little attention to the quarrels and petty strife of their subject peoples. It was much as it is in Africa at the present day; and though the whole continent is divided between the Great Powers, we take such little part in the government and maintenance of order, as hardly to take cognizance of the internal tribal warfare always going on.

The "Abiri" are mentioned as desert people—people of the "blood" or tribe of the Abiri, and of the land of the Abiri—showing, as Colonel Conder says, that the term is derived from Abarim, the mountains east of Jordan, whence the Israelites descended into the Promised Land. Amongst the letters are several from King Adonizedek of Jerusalem addressed to the suzerain power of Egypt. They detail how the Abiri are fighting against the walled towns left by the Egyptian armies in the hands of governors loyal to the Pharaohs. The invaders are described as "capturing the fortresses of the king. Not a single governor remains. . . ." Ajalon is destroyed. Lachish, Askelon, and Geser, are all taken; and finally Jerusalem is abandoned to the invaders.

The parallel, between the account given in the clay-tablets and the operations of Joshua, is so striking that one cannot but conclude with

Colonel Conder that the Abiri are the Hebrews, and that the records of the cuneiform characters are another version from another point of view of the operations of the Israelites after crossing the Jordan.

Professor Sayce connects the Abiri with Hebron,[1] but inclines to the opinion that they were Amorites. The grounds upon which he bases his view are not very clear as far as the identification with the Amorites is concerned; but in the connection with Hebron he finds support in the names of places in that vicinity which were captured by them, such as Hareth and Tabu (*vide* pp. 123 and 150 of Major Conder's "Tell Amarna Tablets"); and if the Abiri really represent the Hebrews we can readily understand that they would naturally be connected with Hebron, although they had but lately come across Jordan, for Hebron was the site of their tribal burying-ground, at Hebron they possessed property, and, as we have already shown, doubtless many of the Israelites were already domiciled there—in fact, the connection of the Abiri of the fourteenth century B.C., with such a place of itself supplies a strong ground for their identification with the Hebrews. Although the description of the operations of Judah and Simeon in the first chapter of Judges closely accords with the notices of the Abiri given in the Tell Amarna Tablets, yet the history of the conquering of the Promised Land given in the books of Joshua bears a character distinct from the irregular operations of the Abiri. There is, however, one feature common to these two accounts. The action of both invasions seems to have aimed principally at obtaining possession of the walled towns. These as we know had been established after the Egyptian conquest, and in the operations of Joshua we see the occupation of the country developing as the towns are taken possession of—in contrast to the later operations of Israel against the Philistines, Hittites, and Amalekites, &c., when regular campaigns and pitched battles took the place of the siege and the assault.

As the proposed identification of Amenhotep II as the Pharaoh of the Exodus, and of Amenhotep IV as the Pharaoh during the time that the children of Israel were establishing themselves in the Holy Land, leaves an interval of 40 years between the reigns of these two Pharaohs, we must examine this period and see what it has to tell us of the time of the Wanderings in the desert. As during the time of Amenhotep II Egypt was undergoing a period of exhaustion, after the splendour and energy of the previous reign, so in the time of Amenhotep IV Egypt was in a state of open rebellion, which doubtless caused the withdrawal of the garrisons from Canaan, and gave the opportunity for Israel to get possession of its inheritance. In this interval of 40 years two kings reigned, Tahutmes IV and Amenhotep III, both of whom were active warriors. In the evidence of their activity we may see the policy of the 40 years' wandering, during which the Israelites had to satisfy them-

[1] Professor Sayce translates the name of this people as Khabiri; but the Kh appears to be a prefix which can be neglected at will, *vide* the identification of Khetam with Etham, of Yabukhaze with Jehoahez, of Kheziquyahu with Hezekiah, of Khumri with Omri, &c., &c.

selves with the mountains of Idumea and the country beyond Jordan, districts which scarcely ever, as far as we know, felt the weight of the Egyptian arms.

Perusal of the early books of the Old Testament suggests an element in the Biblical account of the rise of the Israelites to a position of dominance in the Holy Land very difficult to explain, *i.e.*, the total absence of any reference to the part that Egypt played in the matter subsequent to the overthrow of Pharaoh in the Red Sea. Throughout the XVIII and XIX Dynasties, *i.e.*, from 1587–1180[1] B.C., we know that the armies of Egypt were constantly campaigning in Asia, and Syria was their advanced base of operations for the greater portion of the time. Expeditions were indeed made into the hill-country of Judea to establish the authority of Egypt in this part, and the results of these expeditions of Tahutmes III, 1470[1] B.C., Ramessu II, 1250[1] B.C., and Ramessu III, 1160[1] B.C., are recorded on the monuments of Egypt, triumph being claimed for the Egyptian arms. During the greater part of the XVIII Dynasty the dominance of Egypt in Syria is undoubted. The cities were occupied by Egyptian soldiers and the country regularly administered; but this occupation scarcely ever reached across the Jordan, and left Edom almost untouched. The Egyptian expeditions generally aimed farther afield than Palestine, and the route they followed was up the coast by the plain of Sharon to Kadesh of the Hittites; thus the hill-country of Judea, as long as it was not in the hands of an actively hostile people, was of little account. Although neither people mention the other in their records we find that by each is recorded struggles with the same nations. The enemies of the one nation are the enemies of the other: the Kheta of the one are the Hittites of the other; the Nairi are the people of Aram-Naharaim; the Shasu are the Amalekites and kindred peoples; the Pulista are the Philistines; the Amu are the Amorites. Although it is certain that both peoples had to do with Syria at the same time,[2]—one as the suzerain power, the other struggling for a foothold—we have no certain record that they came in contact. To whatever cause this circumstance is due it is impossible yet to satisfactorily determine; and although, as far as the Scriptures are concerned, the fact that they were compiled as late as the sixth century B.C., when Egypt had sunk to a period of insignificance amongst the nations, has been urged to account for this seeming omission, such reasoning cannot but be profoundly inconclusive.

A more satisfactory argument may be found to lie in the probability that the Egyptian arms were represented in Asia by contingents to tributary monarchs, except when great expeditions directed against their more formidable foes were required. Thus the struggling Hebrews, suffering periodic enslavements at the hands of the petty peoples that occupied with them the Land of Promise and its confines, were beneath the

[1] This date is only approximate.

[2] Even in the tenth century B.C. Solomon received as a dower with his Egyptian bride the Syrian city of Gezer within the borders of Philistia.

notice of the Pharaohs, and could safely be left for the local rulers to deal with. The Philistines, who were a kindred people to the Egyptians—as the cast of countenance shows (*vide* Petrie's "History of Egypt," chap. i)—acted as the outposts of Egypt across the Desert of Arabia Petraea; and in fighting them the Israelites were actually fighting Egypt, much as the Mahdi, in his struggles against Egyptian officialdom, has really been fighting the British Empire. As the power of Egypt decreased, the Philistines gradually got the worst of the struggle, so that, from David's time, they ceased to give the Hebrews any trouble. On the development of Israel into a powerful kingdom and on the overthrow of the Philistines, we find the Egyptians prompt to form an alliance with the House of David, as they did with the rival Hittite Power some two centuries or less earlier; and we read that the town of Gezer formed the dower of Pharaoh's daughter when she was given in marriage to Solomon. Gezer was, and always had been, in the heart of the Philistine country; and the fact that it was disposable by Egypt shows that the Philistine power was in some way subject to Egypt.[1] Similarly, in the power of Jabin, king of Hazor, and his chariots and horses, we may see the contingents of Egypt: although success attended the struggles of the Israelites at first against this king, it was followed by a long period of subjection under the forces of Sisera. This latter name has a great affinity to Egyptian nomenclature (possibly the name is SES-RA, servant of Ra, *vide* p. 6, "Tell Amarna"), and it is possible that in his force of 900 chariots of iron may be seen the contingent of the suzerain power.

On Egyptian monuments we first hear of the Philistines as a separate nationality in the time of Ramessu III, about 100–150 years before Saul was made King of Israel, and this exemplifies another very curious and remarkable element in the books of the Old Testament. They are written for the people of the age when they were compiled, viz., about the sixth or seventh century B.C., and the local colouring is adapted so to appeal more readily to the people then living. Thus it is certain that if the Pulista existed as a distinct people in Philistia long before the invasion of Egypt in the time of Ramessu III, they would have been frequently mentioned on the monuments, since they occupied the ground on the threshold of Egypt's road into Asia. But in the troublous years that preceded Ramessu III's accession, when Egypt was passing through a period of civil war, the fortress-gate of Asia, whether seized upon by aliens or not, apparently started business on its own account, and from being the outpost of Egypt joined the invaders in endeavouring to spoil the Egyptians. The Pulista were thrown back with the others, but henceforth they appear as a separate people, although then probably as

[1] In Judges i, 19, we have a mention of a power in the plains (probably plains of Philistia), with chariots of iron, against which the Israelites could not stand. The presence of the chariots indicates the arms of the suzerain power, which, in the wars of Egypt of that age, played much the same part that Maxim guns do for us, when fighting against savages.

much part of the Egyptian Empire as Basutoland is part of the British Empire. Thus the references to the Philistines in Genesis are probably mere references to the people who, in the time of the Patriarchs, occupied that country which was occupied by the Philistines in the time of the Judges and Kings. Similarly the tenth chapter of Genesis is written from the horizon of the time of Ezekiel. This proleptical peculiarity is an element of great importance to the study of the Bible. It may thus have been—though this explanation does not satisfactorily explain all the circumstances of the omissions referred to—that the references to Egypt are coloured by the very inferior position occupied by that nation at the time that these books took their present form. Egypt was then the broken reed, the obsequious vassal of the Persian Empire; and it would have been little, to forward the nationalizing instincts of the compilers of the Bible, to have laid any stress upon the fact that a people so prostrate could ever have been the arbiters of the East, and under whose supreme authority the people of Israel maintained a position of subordinate humility. The dismissal of Egypt in the dramatic *denouement* at the Red Sea may thus have more to do with the contemporary purposes of the Jewish reformers than our modern historians would consider justifiable.

II.—By Lieut.-Colonel Conder, D.C.L., R.E.

The discovery of a new text of Merenptah in Egypt casts new light on the relations of Israel and Egypt, and appears to discountenance Bunsen's theory that the Exodus occurred in the time of this king (Mineptah).

As given by Dr. Petrie ("Contemporary Review," May, 1896) the inscription, after recording the defeat of the Libyan invaders in the fifth year, continues :—

"Vanquished are the Tahennu (N. Africans); the Khita (Hittites) are quieted; ravaged is Pa Kanana (near Tyre) with all violence; taken is Askadni (perhaps for Ascalon); seized is Kazmel; Yenu of the Amu (perhaps Janohah) is made as though it had not existed; the people of Isiraal is spoiled; it hath no seed; Ruten (Syria) has become as widows of the land of Egypt; all lands together are in peace."

The allusion, as Dr. Petrie argues, is probably to Israel and not to Jezreel; and the text shows clearly that the people so ravaged were in Palestine, not in Egypt. Pa Kanana cannot properly be placed, as he suggests, at Deir Kanûn ("the monastery of Canons"), since that name is probably modern. It has long been identified with Kanah near Tyre. Kazmel may be connected with the ruin *Kasimiyeh*, north of Tyre, and the route followed in this raid was the old sea coast route of Thothmes III and Rameses II.

Dr. Petrie, who adheres to the view of Bunsen, and of Brugsch, which places the Exodus so late, seeks to explain this reference by supposing

that either some of the family of Israel remained in Palestine, or that some of them preceded the main body before the Exodus. But we know nothing of Hebrew history outside the Bible for this period, and the Bible discountenances such suppositions. The new text agrees with the mention of the *Abiri* in the Tell Amarna Tablets, as showing that the Hebrew conquest occurred earlier than Bunsen supposed.

Dr. Renouf has recently stated that Egyptian history throws no light on the date of the Exodus, and Sir G. Wilkinson placed that event as early as the reign of Thothmes III. The theory which places it under Mineptah rests on the supposed explanation of passages preserved from Manetho; but it is remarkable that Manetho does not say that it occurred in the time of Mineptah. He gives (*see* Josephus, "Agst. Apion," i. 15–26) two distinct accounts. According to one of these, a certain Thothmes ruled after the expulsion of the "Shepherds," who left Egypt and founded Jerusalem; while according to the other the Jews left Egypt in the time of a certain Amenophis, who followed Rameses II. This Amenophis, Josephus rightly calls a "fictitious king," but it has been supposed that Meren-ptah has been corrupted into Amen-hotep, *i.e.*, Mineptah for Amenophis.

It is equally probable, perhaps, that the succession of the kings has been confused, and that the Exodus occurred under Thothmes IV, and the settlement at Jerusalem under Amenophis IV, which is more in accord with Old Testament chronology, and with monumental statements.

It should be noted that the dates proposed by Mahler, and accepted by Dr. Petrie, for the ages of the eighteenth and nineteenth dynasties, are 150 to 100 years later than those given by Brugsch. They are not quite correctly calculated, even on the proposed datum, and are brought down yet later by the correction for the motion of Sirius (*see* "Proc. Bib. Arch. Socy.," March, 1896, p. 99). The differences are as follows: —

	Brugsch. B.C.	Mahler (corrected). B.C.
Ahmes	1700	1557
Thothmes III	1600	1456
Amenophis III	1500	1397
Mineptah	1300	1190

Brugsch's dates rest on the coincidence of the vague Egyptian and Greek year, according to the Rosetta stone; and this also agrees with Clement of Alexandria's note as to the coincidence of the Passover in 30 A.D. with the Egyptian month (15th Nisan = 25th Phamenoth). Mahler's dates rest on a statement by Censorinus (239 A.D.) as to the incidence of the years a century earlier than his own time.

In the face of this discrepancy it is remarkable that the light shed on the subject by Babylonian chronology seems to be overlooked. Egyptian data are most imperfect, but the canon of Babylonian kings discovered by Mr. T. G. Pinches gives us much more reliable data. Assyriologists have deduced from the monuments the date of Burnaburias of Babylon, who

reigned about 1450 B.C. The Tell Amarna letters show us that he was the contemporary of Amenophis IV of Egypt. This agrees with Brugsch's chronology, but not with Mahler's, according to which (when corrected) Amenophis IV would reign about 1360 B.C., or a century after Burnaburias. For this and other reasons, Brugsch's dates are evidently more reliable than those recently proposed. Josephus believed that Joseph was in Egypt in the time of Apophis ("Agst. Apion," i, 14); and Eusebius and George the Syncellus (ninth century A.D.) follow this view. But in this case Israel would, according to Bunsen's views, have remained 650 years in Egypt instead of 430 (Exodus xii, 40), and every other chronological statement in the Bible must be equally disregarded.

Dr. Petrie objects, with some force, that there is no record in the Bible of any Egyptian invasion after the conquest of Palestine by Joshua; and that the latter event must, therefore, have occurred after Mineptah's raid. Against this we must set, however, what seems to be a clear indication, in the new text, that Israel was already in Palestine in that reign. It is only by a passing allusion that we learn that Egypt attacked Philistia in Solomon's time, when Gezer was burned; nor does the Bible tell us of the Hittite attack on Bashan, recorded in the Tell Amarna letters. The Book of Judges does not give us any history of events in Philistia till Samson's age, and such negative evidence must always be weak. Mineptah may, like other Pharaohs, have used the native Canaanite levies; and his raids may appear in the Book of Judges as those of Philistines or other Canaanites. As far as monumental evidence has yet cast light on the subject, the presence of Hebrews in Palestine early in the fifteenth century, B.C., and about 1350 B.C., is indicated in accordance with the Old Testament chronology.

Dr. Petrie, in the same paper, states that the name of the God Amen, erased by Amenophis IV, was restored on an inscription by Seti I; but he does not give the grounds for this important statement. It bears on the question of the "heretic king" Khu-en-Aten, supposed to be Amenophis IV, and to have introduced a new religion into Egypt. This question is one which requires to be carefully investigated, because the Tell Amarna Tablets throw new light on the subject. King Dusratta addresses Amenophis IV, as well as Amenophis III, as a worshipper of Amen. No Egyptian texts appear to exist which speak of any religious revolution in his reign, such as is recorded of the Hykaos Apepi. Asiatic religious systems were known in Egypt, through early intermarriage with Babylonian princesses, before the time of Amenophis III, and of his consort Queen Teie, and Armenian wife Gilukhepa. The term *Aten* for the "Sun disk" occurs in the 15th, 64th, 129th, and 133rd chapters of the "Book of the Dead"; and the 64th chapter traces back to the time of the 11th Dynasty. Amenophis III, like Seti I later, is represented in connection with the sun disk, and Amenophis IV himself quotes the ancient ritual of the "Book of the Dead." It is thus very interesting to ask whether the theory of the "heretic king" is really founded on fact, and whether the destruction of the name of Amen is to be really

referred to Amenophis IV. It is, of course, quite possible that he may have accepted the Asiatic gods of his mother, during part of his reign, under the influence of his Armenian bride Tadukhepa: for the Armenians worshipped Ashtoreth, as shown by Dusratta's letters; but the evidence on the opposite side of the question must not be overlooked.

The result of the new discovery of Mineptah's inscription seems, at present, to confirm the view that the Abiri of the Tell Amarna Tablets were really the Hebrews.

Weymouth, 2*nd May*, 1896.

NOTES ON THE APRIL "QUARTERLY STATEMENT."

I.—By Lieut.-Colonel Conder, R.E., D.C.L.

P. 114.—I have no doubt that Dr. Bliss is right in assigning the wall east of the Cœnaculum to the Crusaders or Saracens. In the curious map of Jerusalem published with the works of Marino Sanuto (1322 A.D.), the wall is shown to include the Cœnaculum, and to run much on the line now discovered. But this was not the line in the fourth century A.D.

P. 133. *Serapis.*—Neither Canon Dalton nor Mr. Davis mention the fact that Serapis occurs on coins of the Roman emperors found at Jerusalem (*see* details in "Syrian Stone Lore"), nor do they allude to other representations of this deity. Serapis was an infernal god, equivalent to Pluto and Hades. He is represented as accompanied by a Cerberus, or infernal dog, and has on his head the modius, or basket, and in some cases this is replaced by a human head. This emblem, which recalls the birth of Athene from the head of Zeus, is found in other mythologies, as in India where the Gunga or Ganges Goddess springs from Siva's head. It seems to me unlikely that the name Serapis was connected with Osiris-Apis. The name of Osiris in Egyptian was *Ausar*. There was no doubt a parallelism between the characters of Serapis and Osiris, and the popular explanation may have connected them in Egypt. But Serapis was not connected with a bull. His infernal dog may have been likened to Anubis, but it was nearer to the classic Cerberus, and resembled also the dog of Yama, the infernal deity of India. King connects the name with *Sripa*, the "blood-drinker," a title of Yama. The importation of oriental deities to the west is not confined to Serapis. Pompey's soldiers brought back to Rome the worship of the Persian Mithra, as Serapis was brought from Sinope in Pontus to Alexandria. The discoveries of Puchstein at Tell Nimrud, on the Upper Euphrates, show us that in Commagene, in Pompey's age, a curious mixed Greco-Persian religion gave birth to sculptures semi-Greek and semi-Persian, representing Ormuzd and Mithra, with their Greek equivalents in the accompanying Greek texts. It seems to me probable that Serapis was an Aryan deity of Armenia,

representing the ruler of Hades, and that the true origin of the name, and symbolism of his figures, is to be sought in the East and not in Egypt.[1]

P. 163. *'Arâk Ism'ain* ("Ishmael's Cavern") is marked on the survey map and noticed in the "Memoirs."

P. 178. *Sinai.*—Captain Haynes refers to "an attempt" to identify the route of the Exodus in my new volume, "The Bible and the East," and I may be allowed to say that the short account there given (pp. 44–50) is the result of several years of study, and is based on the distances between the various stations, and on the position of Hazeroth, Jotbath, Ezion Geber, Shapher, &c., as well as on the water supply. The proposal to identify *Elloo* with Elim cannot be considered until the Arabic spelling of the former very unusual word is ascertained. If it is spelt with a double *l*, it is not likely to represent Elim, which in Arabic would be *Aîla* or *Ailin*. I have carefully considered the arguments of Mr. Greene, Professor Sayce, Dr. Trumbull, and others, but have found in them nothing which suffices to upset the usually accepted views as to Kadesh Barnea, Horeb, and Hor.

II.—By M. Clermont-Ganneau.

P. 118. Λυχνάρια καλὰ –"*pretty lamps.*"–The first discovered specimen of such Christian lamps from Palestine, bearing this inscription, was described by me in my "Recueil d'Archéologie Orientale" (1888, vol. i, p. 171), and I there showed that the proper designation to be used henceforth for these tiny remains of the Byzantine period, of which we now possess some thousands, would be the hybrid word "lychnarion."

P. 164. *'Arâk Isma'în and Alâli el Benât.*—See what I have said about these localities in my "Archæological Researches," just published by the Palestine Exploration Fund, vol. ii, pp. 219–220, and upon the possible identification of the former of these great caves with the Rock Etam; an identification I suggested as long ago as 1874.

P. 165. *Arsûf and the Town of Reseph.*—"The beautiful female statue, about 3 feet high," mentioned by Mr. Hanauer, was really that of a colossal hawk, with a medallion, upon which was inscribed a Greek monogram, suspended from its neck. I have fully described it in my "Rapports sur une mission en Palestine et en Phénicie entreprise en 1881" (planche ii, H; *cp.* p. 134, No. 121 A and B).

[1] A more important omission than any mentioned above by Colonel Conder in my notice of the Serapis inscription in last *Quarterly Statement* was that the discovery of the Serapeum last year at Alexandria was not described. I had read and referred at length to all Mr. King had written about Serapis. It appears to me that Colonel Conder fails to distinguish three wholly separate points:—

1. What and who the deity was in his original state at Sinope.
2. What and who the deity was in Egypt with whom he was identified.
3. The subsequent and highly popular deity resultant from the combination.—J.N.D.

My theory there set forth of the origin, up to that time unknown, of the town of Arsûf was, in brief, this :—

1. Arsûf was by its position a town in the territory of Ephraim. Although the list of the towns of this tribe is wanting in the Book of Joshua, nevertheless the genealogy of Ephraim's descendants as given in the First Book of Chronicles, vii, 20–29, enables us to fill up the required gap. There, in accordance with old Semitic fashion, many of the names of towns are enumerated under the form of eponymous personages: Reseph, רשף, is one of these (1 Chron. vii, 25), and represents, letter for letter, Arsûf (ارسوف).

In further proof of this, observe—

2. The town received, under the Seleucides, the name Apollonias, that is to say, "the town of Apollo." Now, the bilingual inscriptions from Cyprus have clearly proved that the official equivalent for the Greek Apollo in the Phœnician Pantheon was a god called Reseph, רשף, and we further find, in an inscription from Carthage, the form of this god's name given as ארשף, Arseph. Both forms, it is clear, would bear the vowel points, so as to be pronounced Resuph and Arsuph.

We obtain thus a strictly exact equation :—

Arsûf—present name of the Arab town,
= Apollonias—name of the Greek town,
Reseph—name of the Phœnician Apollo,
= Reseph—of the genealogy of Ephraim's descendants.

The ancient Ephraimite town of Arsûf would be one of the principal centres of the worship of the Phœnician Apollo (which appears in the inscriptions of Zenjirli). The tradition of such a sanctuary is preserved in the extraordinary veneration shown there by Moslems for the Haram of the famous Sidna 'Aly ben 'Aleil, the true heir of Reseph.

As to the Hawk Statue, it is well known that this bird was the symbol of Horus, who in the Egyptian Pantheon corresponded to Apollo in the Greek, just as Apollo did to the Phœnician Reseph.

P. 171. The land of Suhete or Soethe of the Crusaders appears to me ought to be identified, not with Ard-es-Suweideh, as Colonel Conder states, but with the district of Soueit (سويت), already mentioned by Dimashky.

P. 171. The supposed sun-god Aumo, referred to by Colonel Conder, does not exist in the Pantheon of the Nabatæan Arabs any more than does the supposed god, Malcikhatu. They are both shown to be non-existent, and mere figments, for the same reason. The inscriptions alluded to by the author (*i.e.*, M. Waddington, No. 2392–2395, &c.) speak simply "of the god" (Zeus Helios) adored by a person of the name of Aumos. A very different thing!

P. 174. *The Kadesh Inscriptions.*—Professor Wright's corrections of the evidently faulty copies made by Herr Schick of these inscriptions

had already been proposed by me in 1888 in my "Recueil d'Archéologie Orientale" (vol. i, p. 169, foll.) I have since guarded myself as far as the conjectural emendation of ΦΩC ZΩH is concerned, in my "Etudes d'Archéologie Orientale" (vol. ii, p. 33, note).

III.—By Rev. W. F. Birch, M.A.

"Had Judah that day joined, or one whole tribe,
They had by this possess'd the tow'rs of Gath."—*Milton.*

P. 162. The Arak Ismain proposed by Mr. Hanauer as the Rock of Etam is a very attractive position for Samson's hiding-place.

The site well merits consideration, as it seems to be undoubtedly a *sela* (or cliff) and is situate in Judah, being about 2½ miles from Zorah. I agree with Mr. Hanauer that it is needless to seek for a *sela* at a distance if one near at hand is to be found and would do just as well. Arak Ismain is certainly near at hand, while Khureitun is 17 miles distant from Zorah, but whether this near position does just as well is the very point to be settled. Samson was a long-distance champion. He goes to Askelon, 23 miles from Timnath, to Gaza, 35 miles from Zorah, and carries its gates another 35 miles to the hill before Hebron. The 17 miles to Khureitun would have presented no difficulty to him. Still, I admit he would have chosen 3 before 17, all other points being equal.

Perhaps Mr. Hanauer will point out how Arak Ismain suits the seven *ups* and *downs* in the story in Judges xv, 8–14, and further deal with the following difficulty:—

The Philistines were rulers over Judah. If Samson had been at Arak Ismain, must they not have spread themselves in Wady Surar, west of it, just within the border of Judah? Why should the Philistines come to a stop just across the border of Judah, with Samson almost within view, when many a (Danite) man would have been ready to betray him for a less bribe than 1,100 pieces of silver? If Judges xv, 10, had stated that the men of Beth-shemesh said: Why are ye come up against us—the invasion might seem to have been merely a local and trifling affair, but as we read that the men of *Judah* said so, the business apparently was of a much more extensive character. Why should not the Philistines seize Samson at once if he were at Arak Ismain, and not wait at the door until their slaves, the tribe of Judah, came to remonstrate? The Khureitun site for the Rock of Etam does not seem to me open to these objections. The term "men of Judah" apparently means the tribe (generally) in 2 Samuel ii, 4 (*see also* xxiv, 9; xix, 41, 43). In Judges xv the LXX render the words πᾶς ἀνὴρ Ἰούδα, and Josephus adopts the word "tribe." The "Dictionary of Bible" (Etam) observes: "The general tenour of the narrative seems to indicate that this natural stronghold was in Judah, and that the Philistines had advanced into the heart of the territory of that tribe . . . . (Wady Urtas) was sufficiently distant from

Timnah to have seemed a safe refuge from the wrath of the Philistines . . . . not too far for them to advance in search of him." Samson's surrender I take to have been the act of the tribe of Judah. The gates of Gaza, afterwards standing in sight of Hebron, showed them the chance they had lost. As Mr. Hanauer is nearer to the spot, perhaps he will give his view on the "tribe" and the *ups* and *downs*.

To Samson, with his seven locks unshaven, the two posts had no firm hold of the ground at Gaza, while they and the doors of the gate, bar, and all had lost their weight. Though he could as easily have shivered as shouldered his load, still his habitual playfulness towards the Philistines may partly account for his carrying it up all the way to the top of the *mountain* (Heb. *Har*) before Hebron, more than 3,000 feet in height, and at least 35 miles distant in the bee-line : let the Gazites, if they really want the doors back, take the trouble themselves of fetching them ; deep footprints will guide them right across the great undulating plain, until the trophy is distinctly made out on the highest point (? Kh. Serasir) between Gaza and Hebron.

The common opinion would spare Samson his "terrible feat" by locating the hill at Tell el Muntar, a mile from Gaza. Hebrew usage, in Judges xvi, 3, forbids, I believe, this mercy.

To waive the point that עַל־פְּנֵי (*before*) really, I believe, requires a site within sight of Hebron, the one word *har* (*mountain* R.V.) is sufficient to settle the question. I can find no instance of *har* describing an insignificant eminence like 'Aly el Muntar, only 272 feet above the sea, and 100 feet above Gaza. Till such is produced Samson's long march must stand, hitherto obscured by the *hill* of A. Version.

The Sp. Comm., after noticing the site near Gaza, adds : "But it may be doubted whether one of the hills overlooking Hebron is not rather meant, as Milton has it :—

> Then by main force pull'd up, and on his shoulders bore
> The gates of Azza, post and massy bar,
> Up to the hill by Hebron, seat of giants old,
> No journey of a Sabbath day, and loaded so."

IV.—By Rev. Geo. St. Clair, F.G.S.

Pages 172–3. My book on "Buried Cities," published in 1891, contains my matured opinion on the wall of Nehemiah, with its gates and other notes of locality. Professor T. F. Wright, Ph.D. (in *Quarterly Statement*, April, 1896), quotes an earlier suggestion of mine, from the *Quarterly Statement*, January, 1888 ; but probably no man has studied this puzzling question without finding reason to discard his earliest guesses. Professor Wright quotes three writers who agree with me in placing the Valley Gate at or near the present Jaffa Gate. As he does this for the purpose of showing that we are all wrong, I should have been glad if he had also

arraigned the best authorities, such as Lewin, with whom we are in accord on this point.

Having put my best opinion into my book, I declined Rev. W. F. Birch's invitation to further discussion, and said we must await the results of excavation. Dr. Bliss is now using the spade, and has already discovered a new gate, south-east of the English burial-ground; and, a good way east of this, two other gates, one of them a small one. On the strength of these facts Professor Wright declares that "all the geographers have greatly erred." He himself has no difficulty in identifying the first of these new gates as the Valley Gate, and the other two as the Dung Gate and the Gate of the Fountain; and he suggests for our advantage that "the whole account of the re-building in Chapter III is now quite plain."

We are all watching Dr. Bliss's work with the greatest interest; and if it should disprove any of our conjectures we shall gladly accept the logic of facts. But it may be better to wait till the excavations have proceeded further before we declare that everything is quite plain. The conclusions of Professor Wright seem to me premature and doubtful, for the following reasons :—

1. The date of Dr. Bliss's wall is not settled, and it is unsafe to assume that all three gates are as old as Nehemiah's time.

2. If the first gate (the most western) is so old, it is possible that it may be Nehemiah's Dung Gate, and not his Valley Gate. It may be observed that a drain passes out under it. Lewin ("Sketch of Jerusalem," p. 60) points out that "Josephus also, in tracing the western wall of the High Town, writes that it ran from Hippicus to the Gate of the Essenes at Bethso, the Hebrew word for a dung place. The Essene Gate and the Dung Gate would therefore appear to be identical, and situated at the south-west corner of the High Town."

3. The statement made twice over by Dr. Wright, that "the Dung Gate is said in Neh. iii, 13, to have been about 1,000 cubits east of the Valley Gate," has no foundation in Scripture, either in the English version or the Hebrew text. The word "east" does not occur, and the direction is not stated. Nor does it appear that the distance between the two gates in question, since Dr. Bliss uncovered them, has been measured and found to be 1,000 cubits. Why does Dr. Wright say "about" 1,000 cubits?

4. Dr. Bliss is showing us that the south wall followed different directions at different times. This was to be expected; and it may be vain to look for Nehemiah's gates in the wall of Eudocia. In "Buried Cities" I have tried to trace Nehemiah's wall, as going round the brow of the south-western hill and then making a bend up the Tyropœon Valley. In this I am in substantial agreement with Lewin; and at present I do not see reason, from the excavations, to alter my opinion.

CARDIFF, *May 13th*, 1896.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT JERUSALEM IN THE YEAR 1892.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest, as usual, are in the winter, and the lowest in the summer months; the maximum for the year was 27·617 inches, in December, and the next in order, 27·604 inches, in January. The highest reading in the preceding 31 years, viz., 1861 to 1891 inclusive, was 27·816 inches, in December, 1879.

In column 2 the lowest reading in each month is shown; the minimum for the year was 27·100 inches, in February, and the next in order, 27·125 inches, in July. The lowest reading in the preceding 31 years was 26·972 inches, in April, 1863, and February, 1865.

The range of readings in the year was 0·517 inch. The largest range in the preceding 31 years was 0·742 inch, in 1876; and the smallest, 0·491 inch, in 1883.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest, 0·131 inch, was in August, the next in order, 0·192 inch, in July; and the largest, 0·491 inch, in December; and the next in order, 0·472 inch, in January. The mean monthly range for the year was 0·303 inch. The mean for the preceding 31 years was 0·309 inch.

The numbers in the 4th column show the mean monthly pressure of the atmosphere; the highest was 27·463 inches, in December, and the next in order, 27·432 inches, in January; the lowest was 27·250 inches, in July, and the next in order, 27·280 inches, in August. The mean yearly pressure was 27·358 inches. The highest mean yearly pressure in the preceding 31 years was 27·443 inches, in 1861, and the lowest, 27·359 inches, in 1890. The mean for the 31 years was 27·392 inches.

The temperature of the air reached 90° on May 14th, and was the only day in May of a temperature so high as 90° (in the preceding 10 years, the earliest day in the year the temperature was 90° was March 25th in the year 1888); in June it reached or exceeded 90° on 4 days; in July, 4 days; in August, 6 days; and in September, 8 days, the 24th being the last day in the year of a temperature as high as 90°. In the preceding 10 years the latest day in the year this temperature reached 90° was October 23rd in 1887. The temperature reached or exceeded 90° on 23 days during the year. In the years 1882 and 1891 the number of days of this high temperature was 28, and in 1887 was 73; the average of the 10 years was 43. The highest temperature in the year was 101° on September 17th. The highest in the preceding 10 years, 1882 to 1891, was 106°, in July, 1888.

The temperature of the air was as low as 36° on 3 nights, viz., January 26th, and December 19th and 20th. In January it was as low or

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MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Jerusalem, by JOSEPH GAMEL, in a garden, well within the city, about 2,500 feet above the level of the Mediterranean Sea, open on all sides.
Latitude, 31° 46′ 40″ N., Longitude, 35° 13′ 30″ E.

Months.	Pressure of atmosphere in month—Corrected to 32° Fahrenheit.				Temperature of the air in month at 9 a.m.							Mean reading at 9 a.m.			Vapour at 9 a.m.			Degree of humidity.	Weight of a cubic foot of air.	Wind. Relative proportions of.								Mean amount of cloud.	Rain.	
	Highest.	Lowest.	Range.	Mean.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		Number of days on which it fell.	Amount collected.
1892.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	in.	grs.	grs.	°	grs.											in.
January	27·604	27·132	0·472	27·432	62·0	36·0	26·0	52·4	41·3	11·1	46·8	48·7	45·5	42·1	·268	3·1	0·9	78	500	0	1	6	2	0	7	11	10	5·3	17	7·42
February	27·521	27·100	0·421	27·369	70·0	36·5	33·5	56·7	43·2	13·5	50·0	50·7	45·7	40·6	·253	2·9	1·3	69	497	0	8	1	0	2	5	3	10	5·6	11	4·09
March	27·496	27·158	0·338	27·372	76·0	39·0	37·0	63·3	46·0	17·3	54·7	56·8	50·3	44·3	·292	3·3	1·9	63	491	1	2	2	3	1	5	6	11	5·2	2	1·73
April	27·458	27·192	0·266	27·320	86·0	43·0	43·0	72·4	52·2	20·2	62·3	65·8	56·8	49·5	·354	3·9	3·1	55	481	0	5	5	2	0	5	3	10	4·8	6	1·58
May	27·522	27·130	0·392	27·325	90·5	49·0	41·5	77·5	57·9	19·6	67·7	70·6	58·6	49·4	·353	3·9	4·3	47	477	0	3	1	6	1	4	6	10	3·6	5	1·04
June	27·421	27·224	0·197	27·310	94·5	55·0	39·8	83·9	61·9	22·0	72·9	78·0	64·3	54·8	·430	4·6	5·7	45	470	5	2	1	1	0	2	4	15	0·3	0	0·00
July	27·317	27·125	0·192	27·250	94·5	59·0	35·5	85·6	63·7	21·9	74·7	79·6	66·2	57·0	·494	5·3	5·5	49	467	1	0	0	1	0	6	12	11	1·5	0	0·00
August	27·342	27·211	0·131	27·280	91·0	61·5	29·5	87·1	64·6	22·5	75·8	81·4	68·3	59·6	·508	5·4	6·0	47	466	4	1	0	2	0	2	10	12	0·5	0	0·00
September	27·463	27·246	0·217	27·357	101·0	60·0	41·0	88·0	65·9	22·1	77·0	81·3	66·2	56·0	·448	4·8	6·6	41	467	3	4	1	0	0	2	7	13	1·0	0	0·00
October	27·544	27·286	0·258	27·419	89·8	51·0	38·8	82·2	61·9	20·3	72·0	75·5	62·1	52·5	·395	4·3	5·3	45	474	3	5	5	0	1	4	2	11	1·5	1	0·03
November	27·537	27·271	0·266	27·405	71·5	44·0	27·5	63·9	51·1	12·8	57·5	59·5	54·6	50·2	·365	4·1	1·6	71	478	1	3	3	0	0	8	8	7	4·5	12	6·64
December	27·617	27·126	0·491	27·463	67·0	36·0	31·0	56·0	44·3	11·7	50·2	51·4	47·0	42·4	·272	3·0	1·2	72	498	3	6	2	2	0	6	5	7	4·3	9	8·70
Means	27·487	27·183	0·303	27·358	82·8	47·5	35·3	72·4	54·5	17·9	63·5	66·6	57·1	49·9	·369	4·1	3·6	57	481	sum. 21	sum. 40	sum. 21	sum. 19	sum. 5	sum. 56	sum. 77	sum. 127	3·2	sum. 63	sum. 31·23
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

lower than 40° on 9 nights ; in February on 4 nights ; in March on 1 night ; and in December on 5 nights. Thus the temperature was as low or lower than 40° on 19 nights during the year. In the year 1885 the number of nights of this low temperature was 23, and in 1886 was 97 ; the average for the 10 years was 52. The lowest temperature in the preceding 10 years was 26°·5, in January, 1890.

The highest temperature of the air in each month is shown in column 5. In January it was 62°, being 1°·5 above the mean of the ten high day temperatures in January. The high day temperature was above its average in February, April, September, and December, and below in all other months. The mean for the year was 82°·8, being 1°·3 below the average of 10 years. The highest in the year was 101°·0, in September.

The lowest temperature of the air in each month is shown in column 6. In both January and December it was 36°·0, being 4°·2 and 2°·3 respectively above their averages. The nights were warm throughout the year and above their averages. The mean for the year was 47°·5, being 3°·0 above the average of 10 years.

The range of temperature in each month is shown in column 7 ; the numbers vary from 26°·0 in January to 43° in May. In the months of March, August, and November the ranges were small, owing to the low high day and high night temperatures, being 10°·2, 11°·1, and 8°·4 respectively less than their averages. The mean range for the year was 35°·3, being 4°·2 less than the average of 10 years.

The range of temperature in the year was 65°·0. The largest in the preceding 10 years was 76°·5, in each of the years 1884, 1886, and 1888, and the smallest, 63°·5, in the year 1885.

The mean of all the high day temperatures in each month is shown in column 8. The lowest was 52°·4 in January, being 1°·8 higher than the average. The highest was 88°, in September, being 2°·5 above the average, and the next in order 87°·1, in August. The mean for the year was 72°·4, being 0°·1 above the average of 10 years.

The mean of all the low night temperatures is shown in column 9. The lowest was 41°·3, in January, being 3°·0 higher than the average. The highest was 65°·9, in September, being 5°·0 higher than the average. The mean for the year was 54°·5, or 2°·0 above the average of 10 years.

In column 10 the mean daily range of temperature in each month is shown ; the smallest was 11°·1, in January, and the next in order, 11°·7, in December ; the greatest was 22°·5, in August, and the next in order 22°·1, in September. The mean for the year was 17°·9, being 1°·9 less than the average. The smallest ranges in the preceding 10 years were 9°·3, in January, 1883, and 9°·7, in December, 1890 ; the greatest were 33°·8, in August, 1886, and 30°·1, in the same month of 1887. The smallest mean for the year was 17°·8 in 1883, and the greatest, 24°·3, in 1886.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 11 ; the lowest was 46°·8, in January ; and the next in order 50°·0, in February ; the highest was 77°·0, in September, and the next in order 75°·8, in

August. The mean for the year was 63°·5, exceeding the average of 10 years by 1°·1. The lowest mean temperatures in the preceding 10 years were 39°·8, in January, 1890, and 42°·0, in December, 1886; the highest were 81°·2, in August, 1890; and 81°·1, in July, 1888. The highest mean for the year was 63°·7, in 1885, and the lowest, 60°·1, in 1886.

January was the coldest month of the year, by reference to columns 5 and 6 it will be seen that, though the coldest month, it was above its average both by day and night; and the nights were warm and above their average throughout the year, particularly so in the months of January, March, and September.

The numbers in column 12 are the mean readings of a dry-bulb thermometer. If those in column 12 be compared with those in column 11, it will be seen that those in column 12 are a little higher in every month, the difference of the means for the year being 3°·1. The mean difference between the mean temperature of the air and that at 9 a.m. for the 10 years was 3°·2.

For a few days in the winter months the dry and wet-bulb thermometers read alike, or nearly so, but in the months from May to October the difference between the readings often exceeded 20°, and was as large as 31°·6 on September 16th.

In column 13 the mean monthly readings of the wet-bulb are shown; the smallest differences between these and those of the dry-bulb were 3°·2, in January, and 4°·4, in December; the largest were 15°·1, in September, and 13°·7, in June. The mean for the year was 57°·1, and that of the dry was 66°·6; the mean difference was 9°·5.

The numbers in column 14 are the temperature of the dew-point, or that of the temperature at which the air would be saturated by the quantity of vapour mixed with it; the smallest differences between these numbers and those in column 12, were 6°·6, in January, and 9°·0 in December; the largest were 25°·3, in September, and 23°·2 in June. The mean temperature of the dew-point for the year was 49°·9; the mean for the 10 years was 50°·1.

The numbers in column 15 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·253 inch, in February, and the largest, 0·508 inch, in August. The mean for the year was 0·369 inch; the average of 10 years was 0·375 inch.

In column 16 the weight in grains of the water in a cubic foot of air is shown; it was as small as 2·9 grains in February, and as large as 5·4 grains in August. The mean for the year was 4·1 grains; the average of 10 years was 4·1 grains.

In column 17 the additional quantity of water required to saturate a cubic foot of air is shown; it was less than one grain in January, and more than 6½ grains in September. The mean for the year was 3·6 grains; the average of 10 years was 3·4 grains.

The numbers in column 18 show the degree of humidity of the air,

saturation being represented by 100; the largest numbers appear in January, February, March, November, and December; and the smallest from April to October; the smallest of all was 41 in September. The mean for the year was 57; that of the 10 years was 59.

The numbers in column 19 show the weight in grains of a cubic foot of air, under its mean atmospheric pressure, temperature, and humidity. The largest number was in January, decreasing month by month to the smallest in August, and then increasing to December. The mean for the year was 481 grains; that of the 10 years was 482 grains.

The most prevalent winds in January were W. and N.W., and the least prevalent winds were N., E., and S.; in February the most prevalent were N.W. and N.E., and the least were N. and S.E.; in both March and April the most prevalent was N.W., and the least were N. and S.; in May the most prevalent was N.W., and the least was N.; in June the most prevalent was N.W., and the least was S.; in both July and August the most prevalent were W. and N.W., and the least were N.E., E., and S.; in September the most prevalent was N.W., and the least were S.E. and S.; in October the most prevalent was N.W., and the least was S.E.; in November the most prevalent were S.W., W., and N.W., and the least were S.E. and S.; and in December the most prevalent winds were N.W. and S.W., and the least prevalent wind was S. The most prevalent wind for the year was N.W., which occurred on 127 times, of which 15 were in June, 13 in September, and 12 in August; and the least prevalent wind was S., which occurred on only 5 times during the year.

The total number of times of each wind are shown in the last line of columns 20 to 27; those winds less in number than the average of the preceding 10 years were—

N.	by	10
E.	„	11
S.E.	„	10
S.	„	6

and those winds greater in number than the average of 10 years were—

N.E.	by	2
S.W.	„	5
W.	„	11
N.W.	„	21

The numbers in column 28 show the mean amount of cloud in each month; the month with the smallest amount is June, and the largest, February. Of the cumulus or fine weather cloud there were 5 instances; of the nimbus or rain cloud 28 instances, of which 7 were in February, and 6 in January, and only 4 instances from April to October; of the cirrus there were 10 instances; of the cirro cumulus 69 instances; of the cumulus stratus 61 instances; of the cirro stratus 16 instances;

and 177 instances of cloudless skies, of which 27 were in June, and 23 in both July and August, and 6 only in both February and March.

The largest fall of rain for the month in the year was 8·70 inches in December, of which 4·70 inches fell on the 1st, and 2·18 inches on the 2nd. The next largest fall for the month was 7·42 inches, in January, of which 1·10 inch fell on both the 1st and 31st, 1·09 inch on the 23rd, and 1·03 inch on the 19th. No rain fell from May 19th till October 31st, making a period of 164 consecutive days without rain. The total fall of rain for the year was 31·23 inches, being 6·00 inches above the average for 32 years, viz., 1861 to 1892. The number of days on which rain fell was 63, being 8 more than the average.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT TIBERIAS IN THE YEAR 1892.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; the highest appear in the winter, and the lowest in the summer months; the maximum for the year was 31·118 inches, in January, and the next in order 31·070 inches, in February.

In column 2 the lowest reading in each month is shown; the minimum for the year was 30·318 inches, in May; and the next in order 30·321 inches, in July.

The range of readings in the year was 0·800 inch, being 0·283 inch greater than the range at Jerusalem.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest was 0·189 inch, in August, and the next in order 0·216 inch, in July. The largest was 0·687 inch, in January, and the next in order 0·645 inch, in February.

The numbers in columns 4 and 5 show the mean monthly reading of the barometer at 8 a.m. and 4 p.m.; and those in column 6 the lower reading at 4 p.m. than at 8 a.m.: the smallest difference between these two readings was 0·032 inch, in November, and the next in order 0·043 inch, in February; the largest is 0·107 inch, in October, and the next in order 0·104 inch, in June. In England in January the readings at 8 a.m. and 4 p.m. are practically the same; in all other months the reading at 4 p.m. is lower than at 8 a.m.; the greatest difference is in June, 0·025 inch. The mean for the year at Tiberias was 0·08 inch, being four times greater than in England.

The numbers in the 7th column show the mean monthly pressure of the atmosphere; the highest was 30·823 inches, in December, and the next in order 30·812 inches, in January; the lowest was 30·404 inches, in

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MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Tiberias, by NAJUB NASSAR, at about 652 feet below the Mediterranean, and 30 feet above the level of the Sea of Galilee, open on all sides.
Latitude, 32° 48′ N.; Longitude, 35° 34′ E.

Months.	Pressure of atmosphere in month—corrected to 32° Fahrenheit.							Temperature of the air in month.							8 a.m.								4 p.m.								Rain.	
															Mean reading.			Vapour.					Mean reading.			Vapour.						
	Highest.	Lowest.	Range.	Mean at 8 a.m.	Mean at 4 p.m.	Lower reading at 4 p.m. than at 8 a.m.	Mean at 8 a.m. and 4 p.m.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Number of days on which it fell.	Amount collected.
1892.	in.	in.	in.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	in.	grs.	grs.	°	grs.	°	°	°	in.	grs.	grs.	°	grs.		in.
January	31·118	30·431	0·687	30·838	30·785	0·053	30·812	74·0	44·0	30·0	69·4	48·9	20·5	59·1	55·7	52·4	49·3	·353	4·0	1·0	80	553	61·8	55·8	50·7	·369	4·2	2·0	68	548	11	3·93
February	31·070	30·425	0·645	30·759	30·716	0·043	30·738	80·0	44·0	36·0	71·2	50·6	20·6	60·9	60·2	54·9	50·2	·364	4·0	1·8	69	547	64·2	57·3	51·6	·382	4·3	2·4	63	542	10	1·65
March	30·921	30·398	0·523	30·742	30·670	0·072	30·706	92·0	44·0	48·0	75·8	52·5	23·3	64·2	64·5	59·3	55·0	·431	4·8	1·9	72	541	69·2	61·8	56·0	·449	4·9	2·9	62	536	5	2·57
April	30·840	30·372	0·468	30·629	30·542	0·087	30·586	97·0	50·0	47·0	84·4	58·9	25·5	71·7	71·8	65·1	60·0	·520	5·8	2·8	66	531	79·4	67·0	58·5	·490	5·3	5·5	49	523	3	0·87
May	30·865	30·318	0·547	30·589	30·492	0·097	30·540	106·0	59·0	47·0	91·7	66·6	25·1	79·2	80·5	69·9	62·7	·569	6·0	5·1	54	522	—	—	—	—	—	—	—	—	2	0·12
June	30·687	30·438	0·249	30·542	30·438	0·104	30·490	108·0	67·0	41·0	93·4	71·7	26·7	85·0	85·8	74·9	67·8	·701	7·2	6·0	55	516	—	—	—	—	—	—	—	—	0	0·00
July	30·537	30·321	0·216	30·452	30·356	0·096	30·404	109·0	68·0	41·0	100·7	74·3	26·4	87·5	90·4	77·2	68·9	·707	7·4	7·6	50	510	—	—	—	—	—	—	—	—	0	0·00
August	30·595	30·406	0·189	30·482	30·402	0·080	30·442	106·0	73·0	33·0	100·4	75·7	24·7	88·0	89·0	77·7	70·6	·741	7·8	6·6	54	512	—	—	—	—	—	—	—	—	0	0·00
September	30·749	30·384	0·365	30·593	30·496	0·097	30·544	111·0	70·0	41·0	99·8	73·8	26·0	86·8	89·0	76·0	67·8	·677	7·1	7·3	49	514	—	—	—	—	—	—	—	—	0	0·00
October	30·830	30·498	0·332	30·690	30·583	0·107	30·637	97·0	61·0	36·0	92·1	68·3	23·8	80·2	83·3	71·3	63·3	·584	6·2	6·0	51	521	—	—	—	—	—	—	—	—	4	0·67
November	30·857	30·488	0·399	30·717	30·685	0·032	30·701	89·0	52·0	37·0	78·7	59·5	19·2	69·1	68·4	62·5	57·9	·480	5·3	2·3	68	537	72·0	64·9	59·5	·510	5·6	2·9	65	533	12	6·67
December	31·032	30·509	0·523	30·859	30·786	0·073	30·823	88·0	43·0	45·0	70·8	50·6	20·2	60·7	59·0	54·6	50·6	·370	4·2	1·4	74	550	64·4	58·9	54·3	·423	4·7	2·0	70	543	9	2·94
Means	30·844	30·416	0·428	30·658	30·579	0·079	30·619	96·4	56·2	40·2	86·1	62·6	23·5	74·4	74·8	66·3	60·3	·541	5·8	4·2	62	530	—	—	—	—	—	—	—	—	sum. 56	sum. 19·42
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

July, and the next in order 30·442 inches, in August. The mean for the year was 30·619 inches.

The highest temperature of the air in each month is shown in column 8. The first day in the year the temperature reached 90° was on March 9th; in April the temperature reached or exceeded 90° on 6 days; in May on 17 days; in June, July, August, and September it reached or exceeded 90° on every day; and in October on 28 days; thus the temperature reached or exceeded 90° on 174 days during the year. At Jerusalem the temperature did not reach 90° till May 14th, and there were only 23 days in the year on which the temperature was as high as 90°. At Tiberias the temperature was as high as 101° on May 6th, and reached or exceeded 100° on 2 other days in this month; in June it reached or exceeded 100° on 10 days; in July on 20 days; in August on 21 days; and in September on 13 days; thus on 67 days in the year the temperature reached or exceeded 100°; at Jerusalem the temperature reached or exceeded 100° on only one day. The highest temperature in the year at Tiberias was 111°, on September 15th and 16th; at Jerusalem the highest in the year was 101°, on September 17th.

The lowest temperature of the air in each month is shown in column 9. The lowest in the year was 43°·0, on December 19th. The next lowest was 44°, on January 26th, February 29th, and March 1st, and there was no temperature so low as 44° on any other night, the nearest approach was 45° on January 24th. At Jerusalem the lowest in the year was 36° on 3 nights, viz., January 26th, and December 19th and 20th; and there were 19 nights in the year when the temperature was as low or lower than 40°.

The yearly range of temperature was 68°; at Jerusalem it was 65°.

The range of temperature in each month is shown in column 10; and these numbers vary from 30° in January, to 48° in March. At Jerusalem the range varied from 26° in January to 43° in April.

In column 11 the mean of all the high day temperatures in each month is shown. The lowest was 69°·4 in January, being 17° higher than at Jerusalem; the next in order were 70°·8 in December, and 71°·2 in February; the highest was 100°·7 in July, and the next in order were 100°·4 in August, and 99°·8 in September. At Jerusalem the lowest were 52°·4 in January, 56°·0 in December, and 56°·7 in February; the highest were 88° in September, 87°·1 in August, and 85°·6 in July. The mean for the year at Tiberias was 86°·1; at Jerusalem it was 72°·4.

In column 12 the mean of all the low night temperatures in each month is shown; the lowest was 48°·9 in January, and the next in order 50°·6, in both February and December; the highest was 75°·7 in August; the next in order were 74°·3 in July, and 73°·8 in September. At Jerusalem the lowest were 41°·3 in January, 43°·2 in February, and 44°·3 in December; the highest were 65°·9 in September, 64°·6 in August, and 63°·7 in July. At Tiberias the yearly value was 62°·6; at Jerusalem it was 54°·5.

In column 13 the mean daily range of temperature is shown in each

month ; the smallest was 19°·2 in November, and the next in order were 20°·2 in December, and 20°·5 in January ; the greatest was 26°·7 in June, and the next in order 26°·4 in July, and 26°·0 in September. At Jerusalem the smallest were 11°·1 in January, 11°·7 in December, and 12°·8 in November ; the greatest were 22°·5 in August ; 22°·1 in September, and 22°·0 in June. The mean daily range for the year at Tiberias was 23°·5 ; at Jerusalem it was 17°·9.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 14. The lowest was 59°·1 in January, and the next in order were 60°·7 in December, and 60°·9 in February ; the highest was 88° in August, the next in order were 87°·5 in July, and 86°·8 in September. At Jerusalem the lowest were 46°·8 in January, 50°·0 in February, and 50°·2 in December ; the highest were 77°·0 in September, 75°·8 in August, and 74°·7 in July. At Tiberias the mean temperature increased month by month from the minimum in January to the maximum in August, then decreased month by month to the end of the year. At Tiberias the yearly value was 74°·4 ; at Jerusalem it was 63°·5.

The numbers in the 15th and 16th columns are the mean readings of a dry and wet-bulb thermometer, taken daily at 8 a.m. If those in column 15 be compared with those in column 14, it will be seen that those in column 15 were a little lower in January, February, November, and December, and a little higher in all other months. The mean for the year was 74°·8, differing by 0°·4 from the mean of the year as determined by the use of the maximum and minimum thermometers ; should this be the case in future years, the mean temperature may be approximately determined by a single reading of the thermometers taken daily at 8 a.m.

The numbers in column 17 are the temperature of the dew-point, or that temperature at which the air would be saturated by the quantity of vapour mixed with it ; the smallest difference between these numbers and those in column 15 was 6°·4 in January ; from April to November the smallest difference was 10°·5 in November, and the largest, 21°·5, in July.

The numbers in column 18 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour ; the smallest was 0·353 inch, in January, and the largest, 0·741 inch, in August.

In column 19 the weight in grains of the water in a cubic foot of air is shown ; it was as small as 4 grains in both January and February, and as large as $7\frac{3}{4}$ grains in August.

In column 20 the additional quantity of water required to saturate a cubic foot of air is shown ; it was as small as one grain in January, and as large as $7\frac{1}{2}$ grains in July.

The numbers in column 21 show the degree of humidity of the air, saturation being represented by 100 ; the largest numbers appear from November to March, and the smallest from April to October, the smallest of all was 49 in September.

The numbers in column 22 show the weight in grains of a cubic foot of air, under the mean atmospheric pressure, temperature, and humidity of the air; the largest number was in January, decreasing to the smallest in July, then increasing to December.

In column 31 are given the numbers of days of rain in each month; the largest was 12 in November, and the next in order 11 in January. The total number in the year was 56. At Jerusalem rain fell on 63 days.

In column 32 the monthly fall of rain is given. The heaviest fall of rain on one day in the months from January to April was 1·45 inch, on January 1st; the next in order were 0·90 inch and 0·72 inch on March 22nd and 23rd respectively. No rain fell from May 3rd till October 29th, making a period of 178 consecutive days without rain; the fall of rain on November 26th was 1·62 inch, and on November 30th and December 1st 1·30 inch and 1·42 inch fell respectively. The heaviest monthly fall in the year was 6·67 inches, in November, and the next in order 3·93 inches, in January. The total fall for the year was 19·42 inches. At Jerusalem the total fall for the year was 31·23 inches.

A NEW TREATISE ON THE GEOLOGY OF THE HOLY LAND AND THE DEAD SEA.[1]

By Edward Hull, LL.D., F.R.S., F.G.S.

We welcome the treatise of Dr. Blanckenkorn on a subject which can never fail to interest those who make a study of the physical features of the globe, especially when represented by a region confessedly unique in its geological structure, and one which must necessarily afford fresh objects of investigation, and new methods of treatment, from successive observers. The Palestine Exploration Society of this country has its counterpart in Germany; and with both societies the investigation of the geological structure of the Holy Land, and the mode of formation of the Dead Sea and of the Jordan-Arabah depression, has been undertaken as an essential part of the objects for which each society was founded.

The treatise of Dr. Blanckenkorn deals with those physical changes of which the Dead Sea depression, and the deeply furrowed ridge of Western Palestine, together with the tablelands of Edom and Moab are the outcome. Those who are familiar with the work of previous observers will not find in the essay of Dr. Blanckenkorn much that is new; but it is gratifying to know that there is very little in which he

[1] "Entstehung und Geschichte des Todten Meeres," Von D. M. Blanckenkorn; "Zeit. d. Deutsch. Palæstina-Vereins," ed. by Professor D. Hermann Guthe (Leipsig, 1896).

is not in agreement with them; and his essay will doubtless have the result of inducing German geologists and men of science to take a greater interest in the geology of Palestine and the origin of its physical features. We do not, however, forget that Germany, in the persons of Burckhardt, Fraas, Niebuhr, and Russigger, has taken its fair share in the exploration of Palestine.

The author treats the subject historically, commencing with the old foundation rocks (archäischen Grundgebirge) of supposed Archæan age which crop out along the base of the Moabite and Edomite range on the eastern margin of the Jordan-Arabah depression, and of which the Sinaitic mountains are also mainly composed. He then proceeds to describe the Permo-carboniferous sedimentary beds of Labrusch (Lebrusch), first discovered by the Geological Expedition of the P. E. F. (1883–4),[1] and the succeeding strata of Cretaceous age, beginning with the "Nubian Sandstone" (Russegger), and continuing onwards through the Cenomanian and Senonian stages of the series; the latter being characterised by numerous bands of flint. The author does not admit the presence of Eocene strata along the low grounds bordering the Mediterranean, and considers "the calcareous sandstone of Phillistia" as post-tertiary or diluvial. The terraces of the Jordan-Arabah depression are described at length; and an attempt is made to synchronise them with the stages of the Glacial period in Europe. To the earliest stage (Die erste Eiszeit oder Regenepoche), represented in Europe by the epoch of extreme cold and extension of existing glaciers, the author refers the formation of the highest terraces, of which those in the Arabah Valley, discovered by the members of the Expedition of 1883–4 at the springs of Abu Werideh, are the most remarkable examples; being at a level of nearly 1,400 English feet above the present surface of the Dead Sea. The numerous semi-fossil shells of the genera *Melania* and *Melinopsis*, which these terraces of marl and sand contain, leave no room for doubt but that the waters of the inland sea once stood at this level. Dr. Blanckenkorn throws out the suggestion that it is owing to the almost rainless character of the climate in this region that these strata have been preserved, while their representatives in the more northerly districts of the Jordan Valley, subjected as they have been to rains and torrential action, have been swept away, during the long period through which they have been exposed to the action of atmospheric agencies.

To the first Interglacial epoch, or period of drought (Trockenepoche), the author refers the formation of the salt-rock terrace of Jebel Usdum and the Lisan; and to the second Glacial stage the formation of the more conspicuous terraces, so well described by Tristram, which rise from 300 to 600 or 700 feet above the surface of the Dead Sea. The second Interglacial stage was characterised by the eruption of lava-streams and sheets of basalt, of the Yarmuck Valley, Moab, and the

[1] "Mount Seir," p. 120. Memoir on "The Physical Geology of Arabia Petræa, Palestine, and Adjoining Districts," p. 46 (1889).

region east of the Upper Jordan ; while, lastly, the lower terraces of the plain of Jericho are referable to the third ice-epoch (die Dritte Eiszeit) of Europe. According to this view, it will be seen that the quaternary formations of the Jordan-Arabah are representative of physical changes of wide geographical extension, not of purely local origin ; a view which must commend itself to all geographers. And it should here be stated that the author accepts for the whole Quaternary period in Palestine the term "Pluvial," applied to it in the memoir on "The Geology of Arabia Petræa and Palestine," as generally representative of the Glacial, or Post-pliocene, period of the European continent.

The account of the mode of formation of the great Jordan-Arabah depression given by the author does not materially differ from the views stated in the memoir above referred to, except that the author makes a slight mistake in stating that the great upheaval of the land and sinking of the Jordan depression along one or more lines of faulting took place at the close of the Tertiary period (Mit dem Schluss der Tertiärperiode), meaning the close of the Eocene period.

No fresh light is thrown in this essay on the geological structure of the Badiet-et-Tîh, that great tract which stretches southwards from Southern Judæa to the border of the Sinaitic mountains. This district is less known physically than any other part of Palestine or Arabia, and much requires to be done in order to extend our, at present very limited, knowledge concerning its physical structure. The distant glimpses obtained from time to time along its margin during the progress of the Expedition of 1883–4 led to the belief that numerous points of structural interest remain to be worked out. The Badiet-et-Tîh is not a featureless tableland of glistering limestone, as might be supposed on looking at the maps. The views referred to included well-defined ridges and terraces, sharp clefts and passes, all of which mean structural changes in the rocks. There remains also the determination of the approximate line of boundary between the Cretaceous and Eocene formations, which has never been attempted with any degree of accuracy. The fact is, that the Badiet-et-Tîh is one of the most uninviting regions in the whole of Palestine and Arabia Petræa, and travellers whose time is necessarily limited are glad to escape from it into the more promising districts surrounding the Jordan and Dead Sea. But the rewards awaiting exploration may be greater than anticipated ; and the difficulties and discomforts which might attend the enterprise should not deter geologists in these days of adventure and discovery—while, with proper precautions, no danger would arise from hostility on the part of the Bedawin inhabitants.

THE
PALESTINE EXPLORATION FUND.

NOTES AND NEWS.

The Annual General Meeting of the Fund was held on Tuesday, July 14th, when the large room of the Royal Institution, Albemarle Street, kindly lent for the occasion, was well filled by subscribers and their friends. A full report of the meeting will be found in the present number.

The Committee desire most earnestly to draw attention to the present financial position of the Fund. As will be seen by reference to the Treasurer's Report then presented there are outstanding liabilities amounting to nearly £1,000, and besides these, the excavations now in progress at Jerusalem cost about £100 a month.

The majority of members subscribe half a guinea a year. For this they receive the *Quarterly Statement* free by post. The cost of this is little more than covered by their subscription. Hence it results that the majority of the subscribers at the present moment cannot be said to be more than nominally contributing towards the active work of the Fund in Palestine.

The Committee venture to think that this fact can scarcely be fully appreciated by subscribers.

The importance of the excavations now in progress, to all who take an intelligent interest in ancient Jerusalem, cannot be exaggerated. The success that has hitherto attended the devoted labours of Dr. Bliss and Mr. Dickie is incontestable. They are now at work in the Tyropœon Valley. For the Committee to be compelled for financial reasons to suspend or delay the completion of these excavations would be most lamentable from every point of view.

The Committee would therefore, in order to avert such a catastrophe, respectfully ask the majority of subscribers to the Palestine Exploration Fund to consider whether they will not endeavour to increase their subscriptions, at all events while these important excavations are in hand.

If the majority of those who now subscribe half a guinea would make it a whole guinea the anxiety of the Committee, as regards the financial position of the Fund, would be greatly relieved.

At the same time any further contributions that the guinea subscribers might be liberal enough to make in response to the present urgent needs of the Fund would also be devoted to the acceleration of the excavations.

Dr. Bliss's excavations in the Tyropœon Valley have brought to light a very remarkable stone stairway, forming part of a road leading down from the city past the Pool of Siloam. This stairway is 24 feet broad, and on its eastern side is a parapet, apparently constructed to prevent passengers falling over the scarp which exists there. The steps are 34 in number, so far as discovered. They are about 7 inches in height, and are arranged in a system of wide and narrow treads alternately, the wide treads measuring between 4 and 5 feet in breadth, and the narrow ones about one foot and a quarter. The stones composing these stairs are well jointed, and finely polished by footwear.

It is impossible not to be reminded by this most important discovery of the statement in Nehemiah iii, 15, that Shallun repaired the gate of the fountain, the wall of the Pool of Siloam, by the King's Garden, "and unto *the stairs that go down from the City of David*." It is not suggested that these newly discovered stairs are identical with those mentioned by Nehemiah, but possibly they may be on the same site.

As will be seen on the plan accompanying Dr. Bliss's report, this stairway is less than 30 feet west of the western wall of the (present) Pool of Siloam.

Also another paved roadway leading down from the city has been discovered near the top of the hill, a little east of David's Tomb, and apparently continuous with the long street which runs through the city from the Damascus Gate, and traverses the present Jewish quarter.

In its width, in its kerb on either side, in the size and appearance of its slabs, and in its inclination, this street resembles the one found in the Tyropœon Valley.

Students of Jerusalem topography have long been of opinion that such a roadway existed in this situation. The main thoroughfares of a city are apt to remain in the same spots from age to age, and it has always been thought probable that the great central street of the Holy City was continued further south than the present wall.

Of quite special interest is the rock tomb near the Tombs of the Kings described by Mr. Dickie. It is the only rock tomb with a vertical shaft which has yet been discovered in South Palestine.

The income of the Society, from June 23rd to September 19th, 1896, was—from annual subscriptions and donations, including Local Societies, £234 6*s.* 10*d.*; from all sources—£551 0*s.* 4*d.* The expenditure during the same period was £629 1*s.* 3*d.* On September 21st the balance in the Bank was £148 1*s.* 2*d.*

In the "Mittheilungen" of the German Palestine Society Herr von Schick reports that in his latest examination of the Church of the Holy Sepulchre he has become convinced that under the present Golgotha there is really *rock*, and has found the crevice of which former Pilgrims speak, in which a man could lie down. Also north-west of the Holy Sepulchre, under the Greek Patriarchate, he has discovered the cave in which a hermit formerly dwelt.

Herr von Schick reports discovery of some tombs outside Jerusalem, about 500 feet north of the new gate. They are partly cut in the rock, partly built of masonry. They still contain bones. Herr von Schick considers them to be Christian.

Herr von Schick's elaborate report on the Church of the Ascension will be found in the present number. It is illustrated with plans.

Dr. Post's "Flora of Syria, Palestine, and Sinai," is now ready, and may be obtained on application to the author at Beirût. (*See* advertisement.)

The work embraces 126 orders, 850 genera, and 3,416 species, many of the latter, as well as numerous varieties, being new to science. It is illustrated by 445 woodcuts, and a coloured map, showing the botanical regions of the district covered. It contains a general analytical key to all the orders, and special keys to the larger tribes and genera. Much labour has been expended on these keys, and it is hoped that, by their means, the usefulness of the book will be greatly increased, especially for students and travellers.

We have received from Mr. Gray Hill an account of a visit lately made by him to Petra, which, it is hoped, will appear in the next number of the *Quarterly Statement.*

Mr. G. H. Skipwith, in a letter addressed to the "Academy," writes:—"My object in writing . . . . about Jeremiah is chiefly to inquire of those interested in the exploration of Palestine, whether valuable results might not possibly be obtained by a careful examination of the site of Anathoth. The images of Anath, from which the place is said to have derived its name, cannot have outlasted the reformation of Josiah (Robertson Smith, 'Rel. Sem.,' 2nd ed., p. 211). But here, as early as the reign of Solomon, was situated the estate and place of exile of the deposed high priest Abiathar (1 Kings ii, 26, 27). . . . . Even the legend in 2 Macc. ii, is not without instruction for the explorer. The site of Anathoth is known. Is it possible that it may yield monuments of its ancient importance?"

The Rev. J. J. C. Valpy, of Elsing Rectory, writes:—"In the *Quarterly Statement* for July, p. 232, I read: 'Area Atad . . . . beyond Jordan . . . . difficult,' *i.e.*, across the Jordan. Does beyond Jordan mean across? I will endeavour to show to the contrary. The ancients knew only of Jordan as the river flowing from lake to sea. To writers of central west Palestine what was north of the northern end of Jordan was 'beyond Jordan.' 'Beyond Jordan, Galilee of the Gentiles,' means beyond the northern end of Jordan. Similarly, in Gen. l, 11, beyond Jordan will mean, not across Jordan, but south of the southern end of Jordan. As in one case, so in the other, beyond is not = across."

The first portion of M. Clermont-Ganneau's work, "Archæological Researches in Palestine," is now ready, and being sent to subscribers.

Memo. for Subscribers to the Survey of Palestine.—In the original programme it was intended that the "Archæological Researches" of M. Clermont-Ganneau should be published in one volume, but the work increased so much since its commencement that the Committee found it necessary to arrange for the publication of the whole in two volumes. Vol. II has been published in advance for the reasons stated in the prefatory note.

Vol. I, which treats of Jerusalem and its neighbourhood, is well forward, and, when ready, will be sent out to the first 250 Subscribers without any increase in their subscriptions for the full set.

There are only a few copies of the sets left at the price of £7 7*s*. When these have been cleared out the price will be raised to £12 12*s*. (*See* advertisement in fore-part of Journal.)

A third and revised edition of "Syrian Stone Lore," by Lieut.-Colonel Conder, R.E., is now ready.

An important work by Lieut.-Colonel Conder, R.E., entitled, "The Latin Kingdom of Jerusalem"—1099 to 1292 A.D.—and describing the condition of Palestine under the Crusaders, is in the press, and will be ready in January. It is based on the chronicles and contemporary accounts, both Christian and Moslem, and on the information collected during the progress of the Survey, with descriptions of the scenes of the important events, and other information not to be found in previous histories of the Crusades. The whole will form an octavo volume of about 400 pages, with two maps, giving the Crusading names and boundaries of the "Fiefs" throughout Palestine.

The following works have recently been issued by the Palestine Pilgrims' Text Society:—

Part 14 of Book III of Marino Sanuto's "Secrets for True Crusaders to Help Them to Recover the Holy Land, A.D. 1321." Translated by Aubrey Stewart, M.A. Geographical notes by Lieut.-Colonel Conder, R.E., with three maps.

"Burchard of Mount Sion (1280 A.D.)." Translated from the original Latin by Aubrey Stewart, M.A. With geographical notes by Lieut.-Colonel Conder.

"Jacques de Vitry (1180 A.D.)." Part of the Abbreviated History of Jerusalem. Translated from the original Latin by Aubrey Stewart, M.A.

To be followed by Bohaeddin's "Life of Saladin," which is now in the press.

A complete set of the Palestine Pilgrims' Text Translations in 12 volumes, with Index, bound in cloth; price, £10 10*s*.

Branch Associations of the Bible Society, all Sunday Schools within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The Committee have to acknowledge with thanks the following donation to the Library of the Fund :—

"Travel-Pictures from Palestine." By James Wells, D.D. From the Author.

The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and other Bible Lands. A catalogue of Books in the Library is published in the July *Quarterly Statement*, 1893.

Mr. George Armstrong's Raised Map of Palestine is on view at the office of the Fund. A circular giving full particulars about it will be sent on application to the Secretary.

The third edition of the new Collotype Print or Photo-relief from a specially prepared copy of the Raised Map of Palestine is now ready. Price to subscribers, 2*s*. 3*d*.; non-subscribers, 3*s*. 3*d*., post free.

The print is on thin paper, measuring 20 inches by 28½ inches.

It having again been reported to the Executive Committee of the Palestine Exploration Fund that book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers of any sort or kind in their employ, and that NONE OF THEIR WORKS ARE SOLD BY ANY ITINERANT AGENTS.

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., every week-day except Saturdays, when it closes at 2 p.m.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

Subscribers are requested to note that the following cases for binding, casts, and slides can be had by application to the Assistant Secretary at the Office of the Fund:—

Cases for binding Herr Schumacher's "Jaulân," 1*s.* each.

Cases for binding the *Quarterly Statement*, in green or chocolate, 1*s.* each.

Cases for binding "Abila," "Pella," and "'Ajlûn" in one volume, 1*s.* each.

Casts of the Tablet, with Cuneiform Inscription, found at Tell el Hesy, at a depth of 35 feet, in May, 1892, by Dr. Bliss, Explorer to the Fund. It belongs to the general diplomatic correspondence carried on between Amenhotep III and IV and their agents in various Palestinian towns. Price 2*s.* 6*d.* each.

Casts of the Ancient Hebrew Weight brought by Dr. Chaplin from Samaria, price 2*s.* 6*d.* each.

Casts of an Inscribed Weight or Bead from Palestine, forwarded by Professor Wright, Cambridge, Mass., U.S.A., price 1*s.* each.

Lantern slides of the Raised Map, the Sidon Sarcophagi, and of the Bible places mentioned in the catalogue of photos and special list of slides.

In order to make up complete sets of the *Quarterly Statement* the Committee will be very glad to receive any of the back numbers.

While desiring to give publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

Subscribers who do not receive the *Quarterly Statement* regularly are asked to send a note to the Secretary. Great care is taken to forward each number to those who are entitled to receive it, but changes of address and other causes occasionally give rise to omissions.

The authorised lecturers for the Society are—

AMERICA.

Professor Theodore F. Wright, Ph.D., 42, Quincy Street, Cambridge, Mass., Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

(1) *The Building of Jerusalem.*
(2) *The Overthrow of Jerusalem.*
(3) *The Progress of the Palestine Exploration.*

England.

The Rev. Thomas Harrison, F.R.G.S., The Vicarage, Appledore, Ashford, Kent. His subjects are as follows:—

(1) *Research and Discovery in the Holy Land.*
(2) *Bible Scenes in the Light of Modern Science.*
(3) *The Survey of Eastern Palestine.*
(4) *In the Track of the Israelites from Egypt to Canaan.*
(5) *The Jordan Valley, the Dead Sea, and the Cities of the Plain.*
(6) *The Recovery of Jerusalem—(Excavations in* 1894).
(7) *The Recovery of Lachish and the Hebrew Conquest of Palestine.*
(8) *Archæological Illustrations of the Bible.* (Specially adapted for Sunday School Teachers).

N.B.—All these Lectures are illustrated by specially prepared lantern slides.

The Rev. Charles Harris, M.A., F.R.G.S., Appledore, Ashford, Kent. (All Lectures illustrated by lantern slides.) His subjects are as follows:—

(1) *Modern Discoveries in Palestine.*
(2) *Stories in Stone; or, New Light on the Old Testament.*
(3) *Underground Jerusalem; or, With the Explorer in* 1895.
Bible Stories from the Monuments, or Old Testament History in the Light of Modern Research:—
(4) A. *The Story of Joseph; or, Life in Ancient Egypt.*
(5) B. *The Story of Moses; or, Through the Desert to the Promised Land.*
(6) C. *The Story of Joshua; or, The Buried City of Lachish.*
(7) D. *The Story of Sennacherib; or Scenes of Assyrian Warfare.*
(8) E. *The Story of the Hittites; or, A Lost Nation Found.*

Scotland.

The Rev. J. R. Macpherson, B.D., Kinnaird Manse, Inchture, N.B. His subjects are as follows:—

(1) *Excavations in Jerusalem,* 1868–70, 1894–5.
(2) *Lachish, a Mound of Buried Cities; with Comparative Illustrations from some Egyptian Tells.*
(3) *Recent Discoveries in Palestine—Lachish and Jerusalem.*
(4) *Exploration in Judea.*
(5) *Galilee and Samaria.*
(6) *Palestine in the Footsteps of our Lord.*
(7) *Mount Sinai and the Desert of the Wanderings.*
(8) *Palestine—its People, its Customs, and its Ruins.* (Lecture for Children.)

All illustrated with specially prepared lime-light lantern views.

[*For continuation of List of Lecturers see page at end of Subscriptions.*]

ANNUAL MEETING.

The Annual General Meeting of the Members of the Fund was held on July 14th, at the Royal Institution, Albemarle Street. In the absence of Lord Amherst of Hackney through illness, Mr. James Glaisher (Chairman of the Executive Committee) presided. Lord Amherst wrote:—"Will you kindly express to the meeting my very great regret that I am unable to keep my engagement to preside at the anniversary of the Palestine Exploration Fund this year. It is quite impossible for me to do so, as I am only just recovering from a second return of the malarial fever, of which I had so severe an attack in Jerusalem last year. I had previously, however, the great pleasure of going with Dr. Bliss, who himself was taken most seriously ill only a few weeks later, over the line of his excavations, and of seeing some of the most interesting discoveries which he had then recently made. I should like to bear testimony to the great skill with which he has carried out this work for us, and especially to the tact he has shown in avoiding frictions with the various owners and occupiers of the plots of ground through which his excavations have been carried. I am indeed glad to learn that we have obtained an extension of the Firman, so that I hope this most interesting work may now be continued. I should like to say one word about a member of our Committee who has done so much work for us, and to the result of whose work at the present moment the thoughts of every one are daily and anxiously turned. I need hardly say I mean the Sirdar of the Egyptian Army, Sir Herbert Kitchener. We must, of course, take full advantage of our Firman, and, therefore, I doubt if there will be much money over for any other undertaking; but I hope the members will bear in mind that there is a most interesting portion of the country south of the Dead Sea yet unsurveyed, which is bounded on the east by the already surveyed 'Arabah,' on the west by the Mediterranean, and on the south by the River of Egypt; and perhaps if an opportunity offered to get this done, a special subscription for that purpose might be raised."

The Archbishop of Canterbury, the Bishops of Lichfield and Exeter, Viscount Sidmouth, Major-General Sir Charles Warren, Sir Walter Besant, Mr. Walter Morrison, M.P., Lieut.-Colonel Conder, Professors Kirkpatrick and Petrie, Dr. Rogers, Revs. W. F. Birch and C. Lloyd Engstrom, D. MacDonald, Esq., Henry Harper, Esq., I. Spielman, Esq., and others wrote expressing regret that they were unable to be present.

Lieut.-Colonel Watson, C.M.G., R.E., read the Report.

Ladies and Gentlemen,

In resigning the office to which they were appointed at your last Annual Meeting, the Executive Committee beg to lay before you the following Report:—

They have held 22 meetings for business.

The chief work of the year has been the excavations at Jerusalem, which have been carried on with much energy, skill, and tact by Dr. Frederick Bliss, assisted by Mr. Archibald Dickie.

The following summary of the results of the excavations from May, 1894 to May, 1896, has been forwarded to us by Dr. Bliss: —

"The progress of the excavations during the last two years has been illustrated by the plans and reports of Mr. Archibald Dickie and myself in the *Quarterly Statements*.

However, a brief summary, statistical rather than theoretical, will be of advantage, in grouping together the results which are more or less scattered in the pages of the Journal.

Our point of commencement, as well as our point of departure, was the great rock scarp under the Protestant School, and in the Protestant cemetery south-west of the Conaculum. It was our point of commencement because, picking up the line of scarp outside the cemetery, we found a tower connecting it with the exposed scarp pointing north-east. Around this tower and scarp was a deep fosse. The scarp was also our point of departure, for the wall subsequently found by us and traced to Siloam begins at the top of this fosse, which thus separates it from the tower and scarp, and after running south-east turns to the east for some distance, when it again runs south-east to a point just outside and south of the lower pool of Siloam.

The distance between fosse and pool along the line of wall is 2,420 feet, or a little under half a mile. The sum of the lengths of the pieces of wall actually excavated along this line amounts to 1,175 feet, or almost a quarter of a mile. The reasons for our not seeing it along the whole line were two: first, its utter destruction proved at various points; second, the fact that it passed under a Jewish cemetery for the length of over 100 yards. From the fosse to this cemetery 77 per cent. of its length was actually seen and measured; from the other end of this cemetery to the pool 31 per cent. was seen. But the bit of wall entering the cemetery and the bit of wall emerging from it were identical in masonry, character, and direction. Moreover, beyond the cemetery, though the wall itself has disappeared for some distance, yet a line of exposed cliffs shows where it must have been for 100 yards. Between the fosse and the pool the base of the wall dips 420 feet, or about 1 in 5.

I never ride down the valley of Hinnom without glancing up the hill, and noting with satisfaction that the points through which the wall was found to run are always at the top of the steepest part of the slope, just where General Sir Forestier Walker, speaking simply as a military man, said that a wall ought to run, when he visited me a few days after the work had begun. In other words, it occupies the extreme possible southern position. At its south-west angle it is 370 yards south of the present city wall; at its south-east angle it is 670 yards south of the Hákúrat-el-Khátúníyeh, near the present Dung Gate.

Between the fosse and the Jewish cemetery the wall is double, that is to say was built in two periods. For 100 yards these periods are so distinct that we may say there are two walls. The upper or later wall rests on several feet of *débris* which buries the older wall, whose foundations are in the rock. [From considerations of masonry, &c., the wall emerging from the cemetery and running down to Siloam appears to be the older or lower wall.] On the upper wall were found five towers: on the lower, four, two of them very beautifully built.

Two gates were found at the south-west and south-east angles of the city respectively. Both gates have superimposed door-sills, indicating three periods; the sockets, bolt holes, and in the case of the lower gate, door jamb, are clearly seen. Under both gates large drains pass.

The wall was found at greatly varying depths.

At one point its ruined top was so near the surface that the fellah had often struck his plough against it, while the rock is only 6 feet below the surface.

At another point the rock is 48 feet below the surface, and towering above it the wall was found still standing to a height of 45 feet.

At many points we had to dig deep before we found the top of the wall. Sometimes the ruin was so great that only a single rude foundation course remained. Sometimes we would be pleased to find several fine courses continuing, only to be disappointed at their suddenly ceasing where the wall had been robbed for stones.

The masonry ranged from the rudest foundation rubble to exquisitely jointed and finished work.

Theory was to be avoided in this sketch, but I may be permitted to remark that there are good reasons to suppose that the lower wall is Jewish:—

Firstly.—The *débris* separating it from the upper wall indicates a time when no city wall ran along this line, and points to an interruption in the city's history like that which occurred after the destruction by Titus. The upper wall would then be Roman or Christian.

Secondly.—The pottery found along the base of the lower wall is almost exclusively Jewish, while that at higher levels is Roman.

I have shown that the lengths of the pieces of this wall actually traced amount to a quarter of a mile.

The united lengths of our shafts, tunnels, and trenches amount to over a mile and a quarter.

This, however, by no means indicates lost labour. Indeed the work that was without some good result is a very small percentage of the whole; for negative results take as much labour as positive.

To prove where the line was destroyed required many a tunnel and trench.

Our mile and a quarter of digging represents other labour as well.

We followed a paved road for 100 yards leading to the south-west gate.

For another 100 yards we worked around a scarp defending the wall.

From the line of wall west of the cemetery we drove a tunnel north for 100 yards to see whether some other wall crossed its path east and west.

The investigation of remains -a huge, apparently isolated tower, a beautiful mosaic pavement, &c.—struck in the line of this tunnel—added another 100 yards to our labours.—And at the end of this tunnel, towards the north, we found another city wall enclosing the summit of the Western Hill, which has been examined at various points for a distance of 250 yards. This wall, which appears to be very late, also has its tower, which was investigated.

Near Siloam, outside the city wall, interesting Roman baths were discovered. Drains have been examined at various places.

Branching off from the main line of wall near the pool, another wall was found running north excluding the pool from the city, and this we are still investigating.

Our work has gone very smoothly. A buried wall is no respecter of persons, and runs through the lands of a Greek patriarch, a Moslem effendi, a Latin father, or a Siloam fellah, with all of whom the excavators must come to some understanding, financial or otherwise. But I am glad to say that this understanding has always been friendly. Unfortunately most of our work has been covered up; a barley field has revealed its secrets, and once again is in superficial appearance a mere barley field. The two gates still remain open, and when we come to lay down in red lines the final results of the work, I hope that the map of the south of modern Jerusalem will present at a glance an intelligible idea of the topography of the ancient city."

The Executive Committee desire to convey their best thanks to Dr. F. Bliss and Mr. Archibald Dickie for the admirable manner in which they have carried out their duties in the conduct of the exploration, and also to express their appreciation of the services of the late lamented Yusif Abu Selim and the workmen.

They deeply regret the death of Ibrahim Effendi El Khaldi, the Turkish Commissioner, who always carried out his duties with the greatest tact as regards the explorations while carefully attending to the interests of the Turkish Government.

The excavations are not the only work which has been carried on at Jerusalem under the auspices of the Fund. The veteran explorer Herr von Schick, indefatigable as ever, has pursued investigations of a very interesting character within the city. His examination of mediæval churches and convents in Jerusalem, and of the quarter known as Bab Hytta, throw a flood of light on the conditions of the Holy City during the period covered by the Crusaders' occupation of it.

During the past year the Fund has sent out no expedition except that to Jerusalem, but an important tomb at Sur Bâhir has been reported and described by Mr. Dickie, and a report of the adventurous journey

of Mr. Gray Hill east of Jordan has been placed at our disposal, and published in the *Quarterly Statement.*

The Executive Committee have also to thank many other scholars and explorers for contributions to the *Statement*, which for some years has formed a repertory of Palestine discovery, and the opinions held respecting various points of interest.

Lieut.-Col. Conder, R.E., has contributed papers on "The Syrian Language" and "On the Onomasticon," besides notes on Dr. Bliss's excavations and various other topics.

To the Rev. Canon Dalton, C.M.G., we have been indebted for a paper on the Latin Inscription at Bab Neby Daûd, and Mr. Ebenezer Davis has also supplied another on the same subject.

M. Clermont-Ganneau also, though very busy completing his work on "Archæological Researches in Palestine," has not forgotten to look into the *Quarterly*, and has forwarded some valuable notes on the Corea of Josephus, the Stoppage of the Jordan, and a number of the inscriptions found and copied by the Rev. Mr. Ewing.

Captain Haynes, R.E., has discussed at some length the "Route of the Exodus," "Caleb's Reconnaissance," and "The Date of the Exodus," and Lieut.-Col. Watson, R.E., has contributed a very interesting study of the site of the Jewish Temple.

The Rev. W. F. Birch and Rev. E. H. Hanauer have published their views as to the site of the Cave of Adullam; the Rev. T. E. Dowling, Chaplain to the Anglican Bishop in Jerusalem, has sent a description of some Biblical coins found in Palestine; Mr. John Bellows, a noteworthy paper on "Chisel-drafted Stones at Jerusalem"; and Rev. Theodore F. Wright, of Cambridge, Mass., U.S.A., Prof. R. H. West, of Beirût, H. A. Harper, Esq., and others have sent in useful contributions. Nor must we omit to mention the laborious reports on the Meteorological observations taken for the Fund at Jerusalem and Tiberias, which have been drawn up and contributed by our respected Chairman, Mr. James Glaisher.

The Fund, having made arrangements to take over the publications of the Palestine Pilgrims' Text Society, have issued during the year translations of—

Marino Sanuto's Secrets for True Crusaders;
Burchard of Mount Zion; and
Jacques de Vitry.

The Executive Committee desire to express their most sincere thanks to their Honorary Secretaries for personal services rendered so cheerfully, and to all their friends and subscribers.

Since the last Annual Meeting 227 annual subscribers have been added, and 131 have been removed through death and other causes.

Your Committee have to record with regret the death of Lord Leighton, P.R.A., who had been a member of the General Committee since the year 1875.

They have the honour of proposing that the following gentlemen be elected Members of the General Committee :—

The Right Honble. Earl Northbrook.
The Very Rev. the Dean of Windsor.
The Rev. Dr. Ryle, Hulsean Professor of Divinity at Cambridge.
Gray Hill, Esq.

The income of the Fund during the year 1895 was from donations and subscriptions, £1,737 3*s.* 8*d.*; from lectures, £6 5*s.*; from sales of publications, £749 1*s.* 8*d.*; total receipts, £2,492 10*s.* 4*d.*

The expenditure during the same period was on exploration, £1,002 5*s.*; on printing the *Quarterly Statement*, new editions of books, maps, photos., &c., £775 11*s.* 10*d.* (the *Quarterly Statement*, which is sent free to all subscribers of 10*s.* 6*d.* and upwards, alone costing close on £500); on advertising, postage, insurance, stationery, &c., £172 12*s.* 9*d.*; the management, including rent of office, £598 9*s.* 10*d.*

The balance in the Bank at the end of 1895 was £320 17*s.* 2*d.* The liabilities at the same date amounted to £944 4*s.* 6*d.*
The balance sheet was published in the April *Quarterly Statement.*

The amount received since January 1st, 1896, up to July 7th, from donations and subscriptions, £1,032 11*s.* 2*d.*; sales, £446 13*s.* 8*d.*; total, £1,479 4*s.* 10*d.* The expenditure during the same period has been £1,608 9*s.* 4*d.*

The liabilities on July 7th, 1896, were £1,291 13*s.* 0*d.*

The balance in the Bank on the same date £191 12*s.* 8*d.*

In order to carry out the objects of the Fund effectively a considerable increase in its income is absolutely and essentially necessary, otherwise the excavations at Jerusalem will have to be suspended. The Firman having been so lately obtained from the Sultan for continuing these operations, which have been prosecuted to the present time with such unequalled success, their cessation or delay would be a matter to be most deeply deplored.

Major-General Sir Charles Wilson, K.C.B., R.E.—Mr. Chairman, I have the honour to move the adoption of the Report, but before doing so I should wish to say a few words with regard to the meaning of the

explorations that have just been described. I think that in a few words I can explain to you their general importance. In the first place, we were rather in doubt last year as to whether, at the southern portion of his work, Dr. Bliss had got hold of the old Jewish wall. There was an idea that the wall he had found was that built by the Empress Eudocia about the middle of the fifth century. Dr. Bliss's excavations during the past year have clearly shown that the wall we believed to be Eudocia's was built upon the old city wall of the time of Titus. It is true that there is not much of this old wall left, but at one point it is very clearly defined; that is on the south. At that particular point you have the old wall and above it a large accumulation of rubbish; and built on this rubbish, and still standing, you have the later wall, which is probably that of Eudocia. There is another point, near the Protestant Cemetery, which is not quite cleared up. You see a sort of passage here (*referring to map*). It is not very clear whether that forms part of an inner ditch or whether it is, as in the case of many of the old Greek towns in Asia Minor, a rock-hewn road giving access to the valley below. That is a point which we hope will be cleared up during the course of this season's operations. Then the discovery of the later wall is also very interesting, because that wall probably existed at the time of the Crusades, or shortly afterwards. The present walls of Jerusalem date from the time of Suleiman the Magnificent, the great Sultan of Turkey. Then, coming down to the Valley of Siloam, it is extremely interesting to find a gate at that particular point. It is not quite clear whether it actually stands on the site of the old gate, but that will be cleared up during the excavations this year. The most interesting problems we hope to solve during the present year are the course of the wall in the Tyropœon Valley, and the position of the "Gate between the walls" which is mentioned in the Old Testament and through which the last King of Jerusalem fled (2 Kings xxv, 4; Jeremiah xxxix, 4, lii, 7). I hope we shall be able to solve that question, and also throw some light on the form of the Tyropœon Valley. It is a curious fact that, with all the excavations that have taken place, we still know nothing of the real course or form of the great central valley, except where Sir Charles Warren many years ago carried out his excavations near the Haram. In this valley we may hope to find some objects of old Jewish art. There is a depth of over 100 feet of rubbish, and surely we may hope that something has been washed down into this great mass of rubbish. We have hitherto been unfortunate in not finding architectural or archæological remains of importance dating from Jewish times. Another interesting point which will be cleared up is whether, as many writers suppose, there was a separate wall enclosing the upper city. Some of Dr. Bliss's recent excavations seem to point to the fact that there was such a wall, for beneath the wall was found a very old cutting in the rock which seems to run in the direction of a well-known scarp within the city. It is possible that these two may be connected, and that we may find some traces of the old Jewish wall which

surrounded the upper city. I should like to say a word with regard to the way in which Dr. Bliss has carried out these excavations. Having myself excavated at Jerusalem, I can appreciate the great difficulty and sometimes danger of his work. I must say that he has carried out his excavations with remarkable success, and, what is a very good thing indeed for the Fund, at a very moderate cost. I think they are the cheapest excavations that have been made anywhere. He seems to get on well with his workmen and to get the most out of them that is possible. Well, all these difficulties and dangers will be very much increased during the ensuing season, because he will have to burrow down into this enormous depth of rubbish. We do not know the character of the rubbish; we can only hope that it is tolerably firm, and that Dr. Bliss will be able to get on as well as he has hitherto done. The work will be very difficult, and I am afraid much more expensive than that hitherto carried out; but I am quite certain that the results will be commensurate with the cost, and we must all wish that Dr. Bliss may have the same success that has hitherto attended his labours. I shall be glad to move the adoption of the Report.

Canon DALTON, C.M.G.—In seconding the adoption of the Report you have heard read as to the work done during the last twelve months, I shall not detain you with any very lengthy remarks. Sir Charles Wilson has told you what has been already accomplished, and what remains to be done. I would beg to draw your attention mainly to the last paragraph of the Report, and I will read it once more:—"In order to carry out the objects of the Fund effectively, a considerable increase in its income is absolutely and essentially necessary, otherwise the excavations at Jerusalem will have to be suspended. The Firman having been so lately obtained from the Sultan for continuing these operations, which have been prosecuted to the present time with such unequalled success, their cessation or delay would be a matter to be most deeply deplored." Our present financial position, however, is simply this. The excavations at Jerusalem, which, as Sir Charles Wilson has told us, are the cheapest he has ever heard of, cost about £100 a month. We have now, at the present moment, a balance at the bankers of only £190. The question, therefore, we have to face to-day is a very urgent one. "Do you wish the excavations to go on or not?" It is manifest they cannot go on without funds. The present is an unique opportunity for prosecuting the work, and I am sure we shall all agree it would be a very great pity to suspend or in any way delay its completion. Let us therefore endeavour by every means in our power to exert ourselves that this untoward event should not occur. Now, there are two points in the annual outlay of the Fund, to which, in case they should have escaped your notice, I would beg to refer, as they account in a great measure for our pecuniary difficulties. The first is that all subscribers of half-a-guinea to the Fund have had sent to them, up to now, a copy of the *Quarterly Statement* free by post. Now, the expense of printing and circulating this *Quarterly Statement* consumes

a very large portion indeed of that half-guinea. None of the writers of the articles and papers that appear in it receive a halfpenny for their contributions. These all are given ungrudgingly and without payment; but each number contains engravings, maps, and plans, without which these interesting articles would lose all their value, and it is the production of these that adds so greatly to the cost of printing. I do not think that any subscriber to the Fund who reads that *Statement* will consider there is any margin for retrenchment here, or would be willing to forego receiving the *Quarterly Statement* as heretofore, free. And the second point concerning which I wish to remind you is the item of "management and rent of rooms." This is necessary for the reason that the Fund possesses a museum of objects found from time to time in Palestine, models, and an extensive library and stock of printed books, which have to be housed and taken care of in some accessible spot in London if they are to be of any service, and, of course, a suitable spot cannot be found without paying rent for it. So, neither here, again, is there any legitimate hope of retrenchment. In short, all the operations of the Fund, I venture to say, are conducted on the most economical principles. But the fact is too palpably clear that if the work is to continue we must strenuously endeavour to supplement our present very moderate and inadequate funds. I would, therefore, venture to appeal to the two bodies who are represented here to-day—the subscribers and the non-subscribers. First, to the subscribers, and especially to the half-guinea subscribers, who form so very large a proportion of our supporters, and ask them whether, as they are already receiving back nearly the full value of their subscription in the shape of the *Quarterly Statement*, and seeing how little then remains out of that subscription to go towards prosecuting the real and substantial work in Palestine, I would ask them to consider the possibility of raising their subscriptions, at any rate whilst the excavations are going on; and besides of endeavouring also to gain more subscribers by making better known amongst their friends and acquaintances the work done and the great need there is of additional support. And, lastly, those who are not already subscribers I would venture to ask to set right at once this hitherto—as I imagine—accidental inadvertence on their part. Should their interest have been kindled to-day by what they have heard, or should they wish for any further information as to the Fund and its work, they will find Mr. Armstrong, if they will call at 24, Hanover Square, ready and most happy to supply it to them. Gentlemen, I beg to second the adoption of the Report, and I leave the matter with every confidence in your hands.

The Chairman then put the Resolution to the meeting, and declared it carried.

The Chairman. Our next business is the election of the Executive Committee.

Rev. W. J. Stracey. Mr. Chairman, I have been asked, and I have very great pleasure in proposing the re-election of the Executive Com-

mittee, and in doing so, Sir, I think we must not only congratulate you, but we must congratulate ourselves on the fact that you seem to put your clock back from year to year, and that you go to all this work with the activity and energy of a young man. We are always very glad to see you looking, year after year, as young as ever. What struck me, from what has just been said, is, I think it would be a good plan for the Executive Committee to take into consideration whether it is advisable that £700, or the best part of £700, should be expended upon the distribution of the *Quarterly Report* gratis? I think it would be a very good plan if a certain charge of one shilling or two shillings a number was made. It would add immensely to the funds of the Institution, and it would not be felt by anybody. I venture to make this one suggestion, and I now propose the re-election of the Executive Committee for the ensuing year.

Mr. James Melrose.—I have much pleasure in seconding the proposal which has just been made, and I trust that the appeal will be well responded to with regard to the increase of the funds of this Society. It cannot be expected that the Executive Committee can make bricks without straw, and it is highly desirable, in the interests of the public, that the work should be carried on. I have much pleasure in seconding the resolution.

The Chairman.—It has been moved and seconded that the Executive Committee be re-elected. Those in favour will please hold up their hands. (Resolution carried.)

The Chairman.—I should like now to move a vote of thanks to our workers in Jerusalem. They deserve it, and deserve it well. It has been truly said that no excavations have been carried on for so small a sum of money, and how it is done I can scarcely tell. It is a pleasure to me to know that there is such a feeling among our workers there, that they do everything in their power to keep the expenses down. To Dr. Bliss I need not say how much I feel indebted for his tact, his judgment, and perseverance. To him you will accord a warm vote of thanks, and not less to Mr. Dickie, to whom we are indebted for those beautiful drawings, which so accurately represent the stones so far below the surface of the earth. And I ask you all and everyone to accord not only your thanks, but also your sympathy. It is but a few weeks since that Dr. Bliss and Mr. Dickie were attacked by two men. Dr. Bliss was attacked first, and Mr. Dickie in protecting him was stabbed and his right arm broken, so that we cannot expect any drawings from him for some time. Your sympathy for men working under those circumstances I am sure will be given freely and heartily. (Hear, hear.) Then there are others to whom we must express our gratitude. The Governor of Jerusalem, I am sure, is doing everything he can, and there is his Excellency Hamdi Bey at Constantinople. To those I would ask you to give a warm vote of thanks. And then there are those who work at home—how our office is kept up, and how the work is done for the money I do not know. It is perfectly true that I look after the

expenses in every shape. I do not know of a single sixpence of the money contributed to this Fund that has ever been expended but for the purposes of the Fund—not a glass of wine, or a biscuit, or a cup of tea has been paid for by the Fund, and yet I have known it a good many years now. So that to Mr. Armstrong, our active secretary, we must express our thanks. I said last year I should like to increase his salary, and perhaps that good time may come in the future. Then the editor of our *Statement*—but I will not say a word about him, the *Statement* speaks for itself. To these gentlemen I should like to give a vote of thanks. But here I find that I am imperfect, for I have not included Herr Conrad Schick, who is over seventy, and yet as energetic as a young man. I will ask you, ladies and gentlemen, to accord all these a hearty vote of thanks in recognition of their labours. We are indebted for our meeting to-day to the managers of the Royal Institution. They have for many a year been generous to us, and given us the use of this theatre. May I ask you to give the Managers of this Institution your thanks. (Applause.) I will ask Colonel Watson to second these motions.

Lieut.-Colonel Watson.—Mr. Chairman, ladies and gentlemen, it is a real pleasure to me to second these votes of thanks. I have had the pleasure of knowing Dr. Bliss very well; I made his acquaintance in Jerusalem, and I have a good knowledge of his capacity and ability which make him so well fitted to be our explorer in Palestine. Probably some of you do not know that Dr. Bliss was born and brought up in Palestine. He knows the languages of the country as well as English He is an American, the son of the well-known Dr. Bliss, the head of that splendid educational establishment at Beirut, which has done more for the education of Syria, probably, than any other school, or any number of schools put together. If any of you know Beirut, I strongly recommend you to pay a visit to the college. And you will quite understand that a man like Dr. Bliss, born and brought up in such an atmosphere from his very earliest days, should possess qualities which make him now so thoroughly well fitted to do the work of the Palestine Exploration Fund. His knowledge of the languages, his knowledge of the people, enables him to deal with the Turks, the Arabs, the Greeks, the Romans, and all the different religions in Jerusalem, in such a way that we have had no difficulties. We might have had great difficulties, and the fact that we have had so few difficulties is to a great extent due to Dr. Bliss's tact. To Mr. Dickie, of course, we all owe the greatest thanks for the admirable manner in which he plans out the drawings of the various excavations. You see some of his work on the table before you. As the Chairman has stated, not very long ago, unfortunately, Dr. Bliss and Mr. Dickie, in walking back to Jerusalem at night, were attacked by a couple of thieves, with such violence that Mr. Dickie's arm was broken. He suffered a good deal from it, but I have heard from Dr. Bliss, in a letter received yesterday, that Dickie's arm is going on very well, and he hopes soon to be able to return to his work. Well, ladies and gentlemen, there are other people whom we ought not to forget. There is the

Turkish Commissioner, whose recent death we greatly regret, who was appointed to supervise the explorations. You know, in Turkey, if you go exploring, you must always have a Commissioner appointed by the Turkish Government to see that you conduct your explorations in accordance with the laws of the land. Explorers have a way of putting things in their pockets, and the Turkish Government, I think very properly, directs that all interesting finds made on Turkish soils are to go to their excellent museum at Constantinople. That museum is under the charge of a most intelligent Turk. Perhaps some in this room are acquainted with him. I am happy to say that I have met him, and have much enjoyed his society. His name is Hamdi Bey, and he is as good a specimen of a Turkish gentleman, literary and scientific, as you could possibly wish to meet, and to him we owe great thanks for having assisted in getting us the Firman in the first instance, and lately an extension of the Firman. We are very much indebted to His Majesty the Sultan for having been kind enough to allow us to carry out these explorations at Jerusalem. We hear a great deal nowadays about the Turks, but I must say, as far as the Palestine Exploration Fund is concerned, we have nothing but good to say of the Turks, from the Sultan down. We have the Pasha of Jerusalem, Ibrahim Pasha, who has been a good friend to us. He has helped Dr. Bliss through his difficulties, and to him we owe a great deal. I think it is a happy thing to feel that Turks, Jews, Mohammedans, Americans, and English, in fact all nations, have no discord, and no feeling as regards these explorations, but just to acquire knowledge of what has happened in the past. (Applause.) I am sure, ladies and gentlemen, you will all sincerely join in this vote of thanks.

Dr. William Wright.—Mr Chairman, ladies, and gentlemen, I have had one pleasant moment on this classic ground, and that was at the point at which our good Chairman proposed to close the meeting. I thought I should be saved from making a speech, but still I am pleased to say a word on behalf of those employed by this Society.

I used to live in Syria, and knew the men and their work well, and I think one of the things which has made this Society what it is, is the high character of the men the Committee were fortunate enough to employ in their work.

One afternoon when I was sitting on the top of my house on Mount Hermon, I saw what I considered two Turkish soldiers passing up the valley. They began to pitch a tent, and I was a little struck with the business-like manner in which they were doing their work. A little later one of my men came up to me and told me that two Turkish soldiers had passed, and were much interested to know that I lived there. I hurried down from the top of the house and approached the tent. As I came near I saw that one of the soldiers was a tall man and the other short. They looked what is called "the long and the short of it." The little man came to me and began to talk in Arabic very fluently. When you begin

salutations in Arabic, you ask as many questions as you can—"how is your father, how is your mother, how are all your relations, your aunt, &c.," and when you have got to the end, you begin again. You do not wait for an answer, but you both ask the same questions until you are out of breath. When I got to that point I looked round and saw the big Turkish soldier laughing out of a big English face, such as never adorned the head of a Turk. I turned to my little friend, and said "Perhaps you and I could get on better in English," and then I found I had stumbled on Drake and Palmer returning from the desert of the Tîh.

We spent the next few days together, and the following night on the top of Mount Hermon. We passed from place to place, and I had an opportunity of finding out the marvellous faculty Professor Palmer had for learning foreign languages. We passed from one village where the language was spoken in one way to another where it was spoken slightly different, and he seemed to have caught the change of dialect with the change of air. You know who Drake was. You know that he went out to Syria not believing much in the Bible he had gone to illustrate. You know also what his end was, and the loving Christian message he sent to his mother in his last moments. Those two have gone, and I speak freely of them, but Mr. Armstrong is with us, and I hope he will excuse me if I give an illustration of the way of getting through difficulties by P. E. F. men. He and I were once riding together past Kulat El-Jendal. On our journey we met some of the people of the village. They came running to us, and told us that all the people who passed that way were being stripped, and they implored us to go back and not risk passing through the place. We spoke very large. Mr. Armstrong had an instrument for surveying that glanced very much, and I had a geological hammer, and as we came near the place, Armstrong moved his compass so that it would shine as much as possible, and I kept moving my hammer, as if we were loading and priming infernal machines. The result was, we passed without any picturesque incident.

Not only abroad, but at home you have been very lucky in your officials. Very lucky in getting your distinguished Chairman. It was a great piece of luck getting Sir Walter Besant so long for our Secretary, as well as the other men who are here to-day, and Sir Charles Warren, and also one who is absent up the Nile. You will remember the Sirdar was the surveyor of Galilee.

I am here to-day by command. I happen to be on the Executive Committee, but I had no hand in putting myself forward as a speaker. You have a Chairman who says, and it is done. I am here in obedience to his command. I am here because the Society I represent is a great debtor to this Society. Here is one set of English maps we have made from your maps (*producing a copy*). When our eloquent Canon here was urging you to support this Society, I thought it would be a good thing to follow on the *cui bono* lines. What is the benefit? You have

carried on this Society for 31 years, what have you done? I am here to-day as a debtor. There is a specimen of our Bible maps that we have made from your survey. Of course they are not confined wholly to Palestine, because Sir Charles Wilson, Professor Ramsey, and others have been through Asia Minor, and we have taken advantage of their identifications.

Though this is not a religious society, I ask from my point of view, *cui bono*, what good are you doing? You are exploring an Oriental land, and throwing light on the Bible. That book which we all reverence is an Oriental book. It was written by Orientals for Orientals. Every expression in that book had its origin somewhere in Oriental lands, and even the most sacred expressions are moulded and limited by Oriental expressions, and the most fervent aspirations of the men who spoke and wrote in that book only found a tongue in thoughts that had their natural birth in the Holy Land. All the speakers in the original book were Orientals. Even our Lord Himself, as He passed along the highways, pointed to Oriental things that lay along the highways, and made them the signs and symbols of God's dealing with men.

In our English translation we have the entire substance of the Oriental book, but many burning words lose their effect in translation, and not only the artistic form, but much of the light and colour is lost in passing into Western phraseology. Now the business of this Society at the present time is to enable us to get behind what we may call the Western veil that lies on the face of the Oriental Bible, and to study the book among the surroundings, among the customs, and in the very atmosphere in which the book itself was written.

In doing this work you have gone about the business as you proposed in your first meeting, in a scientific manner. Your method from the beginning has been the Baconian, you collect your facts, you publish them to the world, you let men judge and come to decisions on them. There is another way of dealing with the Bible much in vogue. There is the guess-work way, and important conclusions are reached on evidence that would not be accepted in any police-court in London. The method has a much grander name. I have seen the Bible dealt with in this manner, and patriarchs and prophets brought in convicted of ignorance and error on evidence that would not have created a *primâ facie* case against a poacher. You go by the Baconian method, you lay hold of facts, you publish them, you do not dogmatise over them, you give them to us and tell us to judge by them. That is the business your Society is doing; that is good business, scientific business—work worth doing and worth paying for.

You know that it is one of the facts of modern times, that all the good work in the world is being done by experts. Wherever you find work being done that is worth doing, it is being done by experts. This Society employs experts. When all good work is being done by experts, surely it would be a mistake to leave this vital work in the hands of inexperienced men. There are some who have not read about your work.

I had two Oxford students lunching with me to-day, and I asked them what they thought of this Palestine Exploration Fund. And they said, "We do not take it in at Oxford."

You have made vast changes in the maps of Bible lands. When I went to Palestine about 30 years ago, the rivers ran up and down hills in the most reckless manner. That is a very short time ago. Those were the days when people believed that the Bible came down from heaven bound in calf. The Bible did not come to us in that fashion. There are a good many other things to be cleared up yet regarding the Bible, but this Society of yours has shown that that Book is substantially what it professes to be, and that, I think, is worth fighting for and worth paying for.

I support the resolution that our best thanks be given to those gentlemen who have been working for us. I knew Dr. Bliss as a baby. I have known him ever since ; I have seen him in his father's home and I know his work, and I am sure he is doing good work. You have had a long succession of good men engaged in your work both at home and abroad, and I do trust that the English public—especially the Bible-reading public—will support you better than they have done. In the Society to which I belong we have published the maps of the Exploration Fund in at least nine languages. Six more will come before us by the end of the week, and I hope, before this Society is many years older, we shall have your Palestine Exploration maps in some two or three hundred languages scattered throughout the world, and showing to the various peoples the localities where the things occurred that are spoken of in the Book.

Dr. Löwy.—Ladies and gentlemen, we have heard most eloquent and interesting and instructive speeches, and everyone who has spoken seems to me to be in competition with his predecessor. Everyone, however honourable, wishes to outdo his predecessor. However eloquent one gentleman may be, the one who follows wants to be more eloquent. Now, it will be my ambition and my endeavour, not by speech but by a few observations, to outdo all my predecessors. (Applause.) You can see in the beloved face of our Chairman that his ardent wish is to benefit to the utmost this Society over which he so honourably and nobly presides. Now, if we really wish to make to him a declaration of love it will not be by compliments, but by carrying out that financial suggestion, that eloquent suggestion, which was made by one speaker, namely, that we who are half-guinea subscribers are to metamorphose ourselves into guinea subscribers. Admonition begins with example ; I will at once change myself into a guinea subscriber, and I do so by way of a bribe. I request you ladies and gentlemen who are half-guinea subscribers not to leave me in the cold. But the excellent suggestion which was made that we should pay a guinea instead of a half stopped short. I should request those who can afford to pay two guineas as well as one, they should also convert themselves. And then there should be a competition among those who subscribe in order to benefit that excellent

and old Society which really promotes the most excellent commentary on the Bible that can possibly be desired. Now I suggest that, if we wish to thank our Chairman properly, those who subscribe with me, before they leave the room, not afterwards, should put down their names as guinea subscribers if they are half-guinea subscribers hitherto, or as two guinea subscribers if they have subscribed one guinea. This is the way to thank our President for the efforts he has made for so many years, and I need not say that we thank him for presiding to-day, or how much we wish he may go on presiding for many years to come. He will always have our cordial thanks for the great work he has done. (Applause.)

The CHAIRMAN.—I thank you very much for your kind expressions towards myself. I certainly am in earnest, and I always have been earnest to assist this Society as far as in my power lay, but I am getting old now and the time will come when I may not be able to attend the meetings. In conclusion I beg to inform you that the medal and diploma awarded to this Society at the Chicago Exhibition arrived to-day, and with them the following remarks on our exhibition :—"The exhibit gives evidence of efficient organisation, and displays a number of very accurate and carefully executed maps ; numerous relics and curiosities of great value and scientific interest ; a large number of photographs showing the methods and work of the organisation and the region of its operation. Also publications of scientific value and interest to Bible students." I have further the pleasure to mention that Lord Amherst, whose absence we so much regret to-day, has sent us a donation of £25.

The proceedings then terminated.

TENTH REPORT ON THE EXCAVATIONS AT JERUSALEM.

By F. J. Bliss, Ph.D.

I have never before begun to write a report with the reluctance felt at the present time. And yet the work has never before been pushed as vigorously, nor has been in so encouraging a condition. This paradox is explained by the exigencies of excavation, when the work covers a large area, when interesting clues have been struck, but not as yet followed completely, when connection between bits of walling or pavement can only be suggested by guesses, the correctness of which may be proved or disproved by the pick of the digger, the day after the post has left. The proper moment for rendering a logical account of a given excavation does not always coincide with the date of the appearance of the *Quarterly Statement*. To attempt fully to describe to-day the work done since July 16th, when our excavations were resumed, would be a task as thankless as that of a Chinaman, restricted to the use of his own language, who should visit the grounds of a great exposition in Europe a month before its opening, and should be obliged to rely entirely on his own observation in attempting to describe the grounds and buildings. Incomplete halls still covered with scaffolding, half-finished roads, gardens only partly laid out—these would suggest to him some idea of the order of the exposition, but he would prefer to postpone his description till after the inauguration. So I greatly regret that a report must be written when our work in the Tyropœon Valley is, as yet, so incomplete. Details of a building should be left till the main outlines are traced. Hence the indulgence of the reader is begged for this short report, which must confine itself to showing that we have worked hard, that we have found many important clues, and that these clues give every hope of establishing a coherent topography of this part of the valley, and of its buildings. The next report will cover the same ground, hence the details which it will be necessary to incorporate here had best be minimised. Most of the work done is laid down on the adjoining map, but detailed sections and plans are reserved for another report.

It is over a year since we left the work near the Pool of Siloam to resume our excavations on the Western Hill. At that time we had proved that beyond the gate the wall took a north-easterly direction, including the "Old Pool," as well as the Pool of the Siloam, in the city. Branching off from this, however, was found another wall running in a north-westerly direction up the west bank of the Tyropœon (*see* plan in *Quarterly Statement* for October, 1895). This wall was called LT, and was traced for some 100 feet to the point R, where it was quite ruined. Beyond this the tunnel was pushed for 15 feet to the point T, but only one single stone was found *in situ*, midway between T and R. The scarp on which this wall rests from its beginning at L ceases at Q, beyond

which the natural rock was seen for only a few feet. In the report describing this wall I closed my notice with these words: "The wa where last seen points in the direction of a scarp exposed at the west of the Old Pool. Later on it will be of paramount importance to learn whether there is any connection between them" (*Quarterly Statement*, 1895, p. 316). Accordingly, this year we began a tunnel at the south end of this exposed scarp, at the point A on the present plan, and drove it back under the road, to within a few feet of the point T, which corresponds to T on the former plan (*Quarterly Statement*, 1895, p. 305), a distance of 118 feet. For 42 feet the scarp continues, but is only 18 inches high for a distance of 34 feet; it then rises to a height of 7 feet, and continuing for 8 feet more comes abruptly to an end. The top is not level, and the irregularities are filled with a rough rubble, similar to the material of the wall, which was traced upon it for the whole distance of 42 feet. From the point where the scarp ceases, the wall was traced on the natural rock for 25 feet 6 inches, the direction having slightly altered. In this section the face was seen for some distance, consisting of rude rubble and chips, with a rough idea of coursing observed. The character of this face not being sufficient to prove it to be a city wall, we broke through it at one point, and were pleased to find the thickness 10 feet, with the rock rising behind. This job of breaking through the wall was exceedingly difficult, as the mortar used in the inside had rendered it very strong. In the rest of the tunnel, a distance of 50 feet 6 inches, the rock was not seen, the wall resting on a concrete bottom, similar to the making up under the part of the wall at Q (plan, *Quarterly Statement*, 1895, p. 305), the latter, however, being somewhat stronger. As the face of the wall had been robbed, except for one single course, for a length of 5 feet, it was impossible to get the precise line, but the general direction could be traced for the whole distance, at the end of which it almost died away. In front of the inferred face there were found confused remains of building similar to those seen in front of R, where the Fellahîn had declared that a gate had been destroyed. The lack of face at the end of our tunnel, then, may indicate that a tower and gateway have once existed here. I have said that the wall in the line LT was entirely ruined at R, only a single stone having been seen beyond. We have thus only a hiatus of 15 or 20 feet between the two pieces of wall, each of which, at its point of ruin, is resting on a cement bottom, and is pointing towards the other; hence we may affirm their identity.

In our work this year between A and T (*see* present plan) we did not find any of the finely dressed and squared stones which occurred at M and Q (*see Quarterly Statement*, 1895, p. 314), but it may be remembered that for a long distance we saw no face at all, and that at the points where we did see the face the rough masonry may have been originally underground, and the masonry above, now ruined, may have been originally of a finer type. Similar rough foundation masonry

also occurs under the dressed work in the line LT, as may be seen in the section LN, facing p. 313 of the *Quarterly* for 1895.

I now return to the point A on the accompanying plan, where the scarp is exposed on the west side of the "Old Pool," in order to describe the work to the north-west. For 115 feet little work was needed, as we had only to scrape along the exposed rock, at some points, to prove that it really was scarped. As at B the rock ran underground again, a shaft was sunk and the scarp was found to be 17 feet high, quite perpendicular, and finely worked. Between A and B there is no wall directly on the top of the scarp, and a tunnel driven in at right angles for several feet at one point failed to reveal any wall set back from the scarp. From B we ran a tunnel north-west for 65 feet, not at the base of the scarp but along its top, in order to see whether any wall occurred, but no wall was found. Running almost the whole length of this tunnel there was observed a small channel of concrete, 9 inches square, interrupted by a *birket*, a yard in diameter, into which a second similar channel flowed. We also broke through the walls of a chamber built against the scarp, 15 feet broad, and paved with white tesseræ.

Fifteen feet beyond the end of this tunnel we sank another shaft at C, and picked up the scarp again, which we followed in precisely the same direction (N.W. by N) for 91 feet. At first we kept along the top of the scarp, but soon we were obliged to tunnel under the hard concrete bottom of a channel, a proceeding which we had reason to be glad of later on. A few feet before the scarp ends the top was seen again (the channel having altered its course), and a wall was observed on it. This wall continues in about the same direction on the natural rock for 12 feet, when it breaks out for 14 feet, forming at D a strong corner, consisting of large stones, fairly squared. Between D and E, a distance of 17 feet, the wall consists of small rubble set in mud. Turning at E it runs for 25 feet to F, preserving the same rude character, until reaching F, where we have a strong corner similar to D. Eleven courses, averaging 17 inches in height, are preserved. The masonry is set in good lime. The fall of the rock between E and F is 11 feet. This rapid fall led us to suppose that it was to cross the Tyropœon, and as we pushed north from F we hourly expected a turn to the east, but the corner G, which has just been found, gives a turn towards the west. Part of the wall midway between F and G rests not on the rock but on solid loam. Whether G is on the rock or not is still to be determined.

At E we broke through the wall EF to find its thickness. It is bonded into the wall DE at the corner E for 3 or 4 feet, but beyond this a distinct face, evidently a continuation of DE, was found. The exact thickness of EF was not determined, as the inner face was ruined, but it is at least 13 feet. Curiously enough the interior stones are more massive than the facing stones, and are set in good lime. The wall running back of EF has been traced for some distance, but whether it is older than EF, or due to some internal construction, is yet to be determined.

We thus have followed a continuous line between L and G. This line consists of wall on scarp, wall without scarp, and scarp without wall. We have seen points where the wall on the scarp ceases and the scarp runs on; we have seen points where the scarp under the wall ceases and the wall runs on. Though we have along the scarp a distance of almost 300 feet from A north on which no city wall has been proved to exist (though the search has not yet been exhausted), yet on either end of this scarp masonry has been found to exist which runs on for a long distance beyond. We may thus affirm, with at least archæological certainty, that the continuous line from L to G represents a line of wall, bearing off to the north-west from the wall crossing the Tyropœon Valley below the "Old Pool."

While pushing our tunnel from C north, at a distance of 68 feet from C we came across a slab of stone set against the scarp, 6 feet broad, with a step down from it at the north. Later on we examined the south edge of the slab and found steps of masonry descending from it, butting up against the scarp, somewhat off the right angle. We were thus obliged to work back again towards C, deepening our tunnel as the stairway descended until, at a point 19 feet from C, the scarp towers up for 12 feet, forming the west wall of the tunnel. We were thankful that the top consisted of the concrete bed of the channel referred to before. Up to this point we had no idea of the width of the steps, having seen them only for the width of the tunnel, or about 4 feet. At this point the rock was reached, and we found it stepped down, but irregularly, for a few feet towards C. Accordingly we followed eastward along the last masonry step seen to a point 24 feet from the scarp, where it terminates in a wall 3 feet thick, and running at right angles. This wall is set back 2 feet from a scarp, the depth of which has not yet been ascertained. The width of the stairway at this point is thus seen to be 24 feet. About midway in this tunnel we started a tunnel south in order to see whether the masonry steps still continued there. This they were found to do, and we followed them for 40 feet, where the pavement continues level for 20 feet, at which point another step occurs. We had evidently struck the stairway at its top, hence it continues without break for over 90 feet. Whether after the break of 20 feet it continues south or not remains to be seen.

The work along the last-mentioned tunnel was exceedingly ticklish, as the steps were choked with large well-squared stones which may have fallen from the great scarp to the west. The boxing was managed cleanly by the digger in charge, who had to fill up the spaces between the boxes and the roof of the tunnel with the fragments of the huge stones he had broken up. Moreover, a tunnel that runs down hill is much more difficult to manage than one that keeps on the level.

The number of the steps is 34. They vary in height from 7 to 7½ inches, and are arranged in a system of wide and narrow treads alternately, the wide treads varying from 4 feet 4 inches to 4 feet 10 inches in breadth, and the narrow ones from 1 foot 3 inches to 1 foot

4 inches. They are built of hard well-jointed stones, finely polished by foot-wear.

As it seemed best to find the breadth of the stairway at another point, we selected the top step, and pushing along it struck a wall only 7 feet from the scarp. This wall is 4 feet 4 inches wide, and turns out to belong to a building running not quite parallel to the scarp, so that the distance between them diminishes as one goes south. This building has a paved flooring, and two doorways have been found in it, but it is not as yet sufficiently excavated to describe. It appears probable that when it was erected part of the stairway was destroyed, as the steps are broken off irregularly near its west wall, leaving only 4 feet of breadth for the stairway between the building and the scarp. The relation between the two will be clearer when more thorough excavation permits of proper levelling.

The Committee has requested me to make a rock section of the eastern face of the western hill, continuing the line across the Tyropœon Valley and partly up Ophel. As this section is incomplete no drawing can yet be made, and details must be left till later. I may say here that rock has been reached in shafts I, J, K, L, and M. The true bed of the valley was struck at L, where the rock is 65 feet below the surface. From L tunnels have been driven towards M and K, but the connection could not be made as the tunnels had to ascend with the rapidly-rising rock, and at last the candles refused to burn.

In shaft J was found a ruined archway, resting on an old wall, set on the rock. The opening is 8 feet 4 inches, the arch is circular, and the distance from the key of the arch to the floor is 10 feet. Excavation here is rendered difficult by a later *dirket* on one side, by evidently later buildings on the other, and by the extremely loose nature of the *débris*. It has been thought best to leave the matter until other clues may point to a solution.

At K a building has been found resting on the rock and standing to a height of 20 feet, the walls being only 3 feet thick, but stepping out as they descend, giving a foundation breadth of 7 feet. This also must be left for future consideration.

Chance favoured us in our shaft at M, for at a depth of 20 feet we came down directly in the street kerb. From the shaft we pushed tunnels both north and south, thus following the street for a distance of 115 feet. From the shaft south the pavement falls $1\frac{1}{4}$ inches in 1 foot; from the shaft north it rises $1\frac{1}{2}$ inches to the foot. Besides this the street drops with a 6-inch step at intervals varying from 18 feet 8 inches to 16 feet. From our shaft south we followed along the kerb till we came to a step, and then followed along the line of the step to get the width of the street, which is 24 feet. We then pushed south along the western kerb. From the shaft north we drove our tunnel along the eastern kerb. The paving stones vary in size, the largest being 6 feet by 4, and 18 inches thick. They are laid on a concrete bed strongly made up of chips and lime, averaging 13 inches deep. The kerb is $5\frac{1}{2}$ inches high, and drops

with the steps. The street is wonderfully well preserved, very few slabs and only occasionally the kerb being missing. Work here was very slow and difficult, as the street is completely buried by stones evidently fallen from houses on either side, for at the shaft the wall of a house was found standing a little back from the kerb, built in finely-dressed courses 18 inches high, set in lime. These stones, *in situ* as well as the fallen stones, have beautifully-dressed comb-pick margins, with centres picked with a very fine tool. On pulling up the pavement to find the rock below, we found that this wall continues under the street level in rough rubble courses, 8 to 15 inches high, set in lime, resting on the rock, which is about 10 feet below. On the other side of the street, directly on the kerb, stands a single course of stones which may represent the wall of another house.

We hope to trace this street further north. Sixty-five feet to the south of the point last seen in the tunnel from M we sunk a shaft at H, coming upon a concrete bed similar to that found under the street. Below this we found a large drain silted up to within about 2 feet of its covers. It is 9 feet high and 2 feet 8 inches broad. The construction is very fine, the walls being built in courses 23 inches high ; the stones are well squared and set in lime with $\frac{1}{2}$-inch joint. The covers are well squared and dressed on soffit ; they average 19 inches broad by 21 inches deep. As seen on plan, it was followed for a distance of over 200 feet, at either end of which it was blocked by fallen covers. It has many small inlets and one large branch, 2 feet wide, traced 50 feet to the west. Nineteen feet to the south of H there is a square manhole with bevelled ventilating openings through covers, which probably are the paving stones of the street traced to the north. Beyond this there is a circular manhole ; 18 and 36 feet north of H respectively there are two other manholes, the further one circular. Though finer in construction, in many ways this drain resembles the one running under the gate at the south-east corner. From the plan it may be seen that they incline towards each other, and they may be one. As to the street, it is pointing to the steps excavated west of the Pool of Siloam, and between the two we have found a pavement at D. It will be interesting to know whether these three belong to the same long street. In favour of this view is the fact that the level pavement succeeding the steps at the south is, at a distance of some 20 feet from these, itself stepped down, in the same manner as the street at M.

These discoveries have excited much interest among our archæological visitors, who, in regard to the position of Zion, are divided into two parties, one favouring Ophel, or the Eastern hill, the other holding to the traditional site on the Western hill. Both would see in our stairway "the stairs that go down from the City of David" of Nehemiah iii, 16. The traditionalists point to the fact that it runs at the base of the Western hill. The "Ophelites" insist on the connection between the steps and the paved road, traced in almost the same line to the north, this road being on the west slope of Ophel. As for us, who have the spade

still in our hands, we need not trouble about theories till this implement has shown us all it can.

We have also this season done considerable work on the Western hill, but as this consisted mainly in following out clues (some of which were followed in vain), mentioned in the last report, I shall refer the reader to the plan accompanying the July *Quarterly* of this year. Perhaps the most interesting discovery reported in that number was the pavement which we guessed to belong to an old street. This conjecture has now been verified. Sinking a shaft at a point midway between L and M, we came directly upon the same pavement, finding some 18 feet of breadth, though the kerb, seen at L and P, was gone on either side. The portion of the street at P was found by the Père Germer, and he pointed out to me that at this point it could not run on directly north, as it butts up against the rock, which rises abruptly for 6 feet. Our further excavation proved that it turns to the east to avoid a platform of rock, about 17 feet east and west, by 30 feet north and south, after which it returns to its original direction, thus going around three sides of the platform. Beyond the platform we traced it for a few feet. A shaft sunk 80 feet beyond to the north, revealed in the same line a single paving stone, which may safely be assumed to belong to the street, which at almost every point where it had been struck had been more or less robbed of its paving stones. From this point, in almost a straight line to the point M, a distance of 500 feet, we have thus found, at seven places, similar pieces of pavement. This line points almost directly to the eastern one of the two streets running parallel in the Jewish Quarter, and connected by the Bazaars (in which traces of an ancient street still remain), with the street from the Damascus Gate. As the main thoroughfares of a city are the features that are most apt to remain the same from age to age, it may be safely conjectured that we have here the continuation of a street originally coming from the Damascus Gate. In its width, in its kerb on either side, in the size and appearance of its slabs, and in its inclination, this street resembles the one found in the Tyropœon Valley.

In my last report I spoke of the scarp FP (*see* plan in July *Quarterly Statement*), which is about 10 feet high. As the upper city is supposed by some to have had a wall of its own, further examination has been given to this scarp. At P a tunnel was driven southwards along the scarp, which beyond F was found to have an insignificant height, and after some irregular turnings to die away. After the expected turn to the east at P it turns north again, growing less and less in height, until after a few slight turnings it also dies away. The conclusion is that, like many similar scarps on this Western hill, it was due to quarrying, and was not hewn as a base for a wall. From contour 2469 we drove in a tunnel west to a point not far from the road.

The depth of soil was slight, and no traces of a wall were found, but we were glad to discover a fine cistern, apparently in excellent preservation, at a point just by the place where our kind hosts, the Augustinians, pitch their mammoth tent at Whitsuntide, when the French pilgrimage visits Jerusalem. The excavations made by the

Augustinians between contour 2469 and the aqueduct have relieved us from searching for the city wall there. Such a wall may have once existed, but the chances are against its recovery, as the line it may have occupied has been built upon over and over again.

As to the late wall, NAI, shown in the July plan of this year, all attempts to trace it beyond I have been vain. I gave reasons to suppose it had turned north at O or J. Accordingly a shaft was sunk a little to the north of J, and from its bottom much tunnelling was done. Several times bits of walling gave us supposed clues, but the walls always turned out to be of slight thickness. A wall was also examined near K, with similar results. As the work in the Tyropœon Valley has become so important we have left the Western hill for the present.

Such, then, are the main outlines and some of the details of the work done this last season. The daily average of workmen employed has been higher than ever before, being about 35. It has been trying to work in that open sewer, the Tyropœon Valley, during a summer whose heat the oldest inhabitant does not find paralleled in his memory. Our health has been, on the whole, good. Mr. Dickie's arm has now quite recovered, and he was able to relieve me entirely for over a fortnight, when I was ordered to rest. Hardly was I fit for work again when a sore throat laid by Mr. Dickie for a time. One day work was suspended, when we attended the Turkish Criminal Court as prosecutors of the men who attacked us. Judgment was in our favour, and they are now in prison. Our Imperial Commissioner, Showkat Effendi, has followed his late father's excellent traditions in every way, and the readers of the *Statement* will know this to be high praise. His valuable assistance to our work is rendered cordially. The diggers have done their work well, and have been ably superintended by their young foreman, Yusif, whose aim is to be worthy of his predecessor, Abu Selim. He is full of enthusiasm for the work, and his fidelity has already been proved during his five years in our general service.

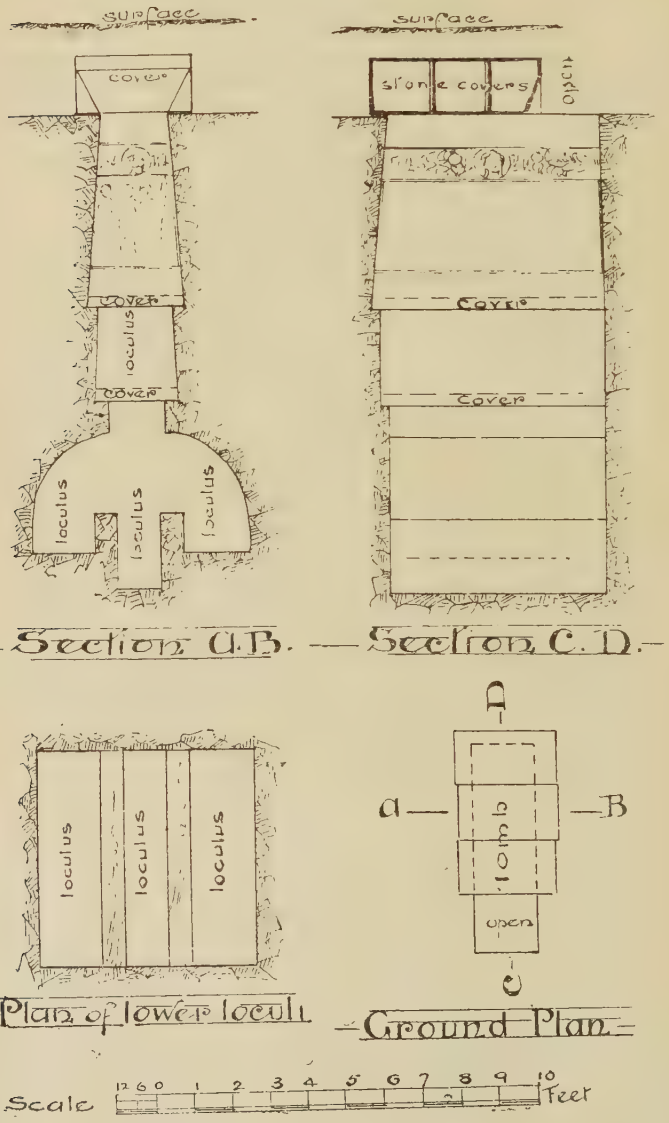
JERUSALEM, *September* 14*th*, 1896.

REPORT ON TOMB DISCOVERED NEAR "TOMBS OF THE KINGS."

By ARCHIBALD C. DICKIE, A.R.I.B.A.

A FORTNIGHT ago Bishop Blyth kindly asked me to visit a tomb which had been discovered on his property to the north of the city. I did so, and was delighted to find the rather faded remains of a most charming piece of frescoing on the walls of a tiny rock-cut cell, this being the only part excavated at that time. It lies immediately to the west of the "Tombs of the Kings," and is adjacent to the Anglican

TOMB DISCOVERED NEAR "TOMBS OF THE KINGS."



College buildings, which are now in course of erection. Further excavation proved the tomb to be entirely sunk in the rock, with stone

FRESCO ON WEST END OF TOMB, NEAR "TOMBS OF THE KINGS."

covers set in lime, only 2 feet 6 inches below the surface of the ground, a bevelled opening, 19 inches by 20 inches, being cut through the covers at the east end. The cross section, A B, shows the rather curious formation of a sunk tomb with *loculi*. The lower three *loculi* are placed side by side, the centre one being 5 feet 8 inches long by 13¼ inches wide by 2 feet deep, and the two side ones 5 feet 8 inches long by 20 inches wide by 12 inches deep each, all covered roughly with a thin coat of very hard plaster. The rock above is cut back to form rests for the covers, which also serve as the floor of another *loculus* immediately above the centre one, measuring 5 feet 9 inches long by 2 feet 3 inches wide by 2 feet 6 inches deep. Above this the rock is again cut back to receive the covers of this upper *loculus* (which is not plastered), these covers also serving for the floor of the upper cell, which measures 6 feet 1 inch long by 2 feet 6 inches wide at bottom, and diminishes towards the top to

DETAIL OF FRIEZE OF TOMB, NEAR "TOMBS OF THE KINGS."

5 feet 6 inches long by 1 foot 8 inches wide ; the height from top of floor rest to soffit of stone covers is 5 feet 3 inches. The north and south sides and the west end of this cell are plastered and covered with fresco, but the east end has been left unfinished and shows the bare roughly-cut rock. A glance at the sketches will show the scheme of decoration. An irregular band of red colour from 6 inches to 10 inches deep extends round the top of the three plastered sides, under this is a decorative frieze 9½ inches deep, separated from the upper and lower panels by bands of dark red colour ⅞ inch broad. The lower panels are 26 inches high, and extend the whole length of each side, formed by similar bands of red colour ; under these the ground colour extends undecorated to the floor.

It is unfortunate that the effect of time and exposure has so destroyed the colour that only a part of the design can be recovered, which, however, is sufficient to give a fair idea of its style and period. On the east end the remains of three erect figures are still quite distinct. The centre

male figure is almost entirely obliterated, and its outline can only be very indistinctly traced. To the left is a female figure, the head of which is complete, and the lines of the drapery sufficiently indicate the upright pose. The head of the male figure on the right is all but gone, but the black colour of the hair and part of the beard and a faint indication of the eyes and nose still remain ; the flowing red robe, the position of the right knee, slightly raised, and the faint indication of the uplifted left arm, tell the artist's conception. Two colours (red and black) on a yellow ochre ground are used in the painting. The faces are outlined in black, and the drapery of the centre and left figure is in black, that of the right figure is in red. Only the heads and upper parts of the bodies can be traced, the lower parts and feet being entirely gone. The scene depicted I cannot make out. Its general treatment is bold. The graceful queenly pose of the half-turned head and shoulders of the female figure, the tasteful arrangement of the hair, and the stern, yet sorrowful, expression of the eyes, which seem to cast back a semi-scornful glance as she moves slowly away, are rendered with power and feeling. The manly vigour of the male figure on the right is painted with no less power, and the whole piece is drawn with classic truth and force. The south and west sides have also been decorated, but now only indistinct blotches of colour remain, quite insufficient to define any single detail of the design. The frieze on the three sides consists of a simple conventional treatment of a female head, with an arrangement of pomegranates and leaves on either side. On the frieze above the figures is a head with indistinctly painted ornamentation on either side. The sketch will show that this face is completely destroyed and that only a faint outline and the two hanging tresses of hair now remain. I am sorry to say that my carelessness accounts for this, and is an instance of how even the most gentle handling is dangerous in dealing with such frail antiquities. This face when I first saw it was almost complete, part of the forehead and one eye only were wanting, the mouth, nose, and eye being painted with remarkable expression. I unfortunately attempted to finger off some of the dust, with the result that the whole face flaked off and broke into atoms on the floor. Its form and character still remain in my mind, but I dare not attempt a restoration.

The sketch from the frieze on the south side is the most complete, in fact, the only distinct piece that remains, but is sufficient to show the whole design, which is merely a repetition of this part. The delicate pale green halo, which encircles the head, combines well with the conventional treatment of the face and hair, and produces a charming play of colour as a centre piece to the dull grey of the pomegranate leaves which is only broken by the pink-coloured fruit when approaching the middle feature. The colour effect is agreeable and the whole composition exceedingly happy. A Greek inscription has been painted over the heads of the figures on the west end, which I have copied as closely as possible, but on account of chippings, decay, &c., the greater part is undecipherable. The learned Dominican, Père Sejourné, has, however, been able to recover a

part of it, and reconstructs the letters ΑΛΓ . . . . Α over the head of the female figure into ΑΛΓΕΙΝΑ—"sorrowful." On the assumption that the fresco illustrates a funeral procession, he suggests that the letters ΙΑ between the second and third figures permit of restoring another word of the same with plural termination, as for example :—ΑΝΘΡΩΠΕΙΑ "human."

The tomb is evidently a family one of four *loculi*, and as far as I can make out the plan is unusual about Jerusalem.

The tomb is nearly in the middle of a space surrounded by a wall of masonry 3 feet thick, which seems to be the remains of a building, which at one time covered the tomb. It is quite evident that the entrance to the cell was not made from the open air, as the bevelled opening shows no evidence of ever having been covered, and the plaster and decoration continue over the bevelled face of the first cover, as if intended to be visible from an interior. No pottery or other objects were found, and only a very few bones ; the whole tomb appears to have been entirely robbed of its contents.

The three frescoed figures are so exceedingly classic in character that they seem to illustrate some mythological subject, but the rendering of the frieze is more conventional and lacks this vigorous feeling. In fact it suggests Christian art as readily as the other inclines towards a pagan origin. The work certainly belongs to a period when classic art still flourished in the country, but I will leave someone better acquainted with such antiquities to class it more definitely.

Another tomb was uncovered to the south, as shown on plan—only a simple sunk cell, 5 feet 3 inches long by 1 foot 6 inches wide, and in it are two bodies placed side by side, one with the head to the west and one to the east.

The Camp, Jerusalem,
August 30*th*, 1896.

REPORTS FROM HERR BAURATH VON SCHICK.

The Church of the Ascension on the Mount of Olives.

(A.)—*Its Present State and Condition.*

On account of excavations on the Mount of Olives, I went, towards the end of last year, several times there. Once when there, it came into my mind to make also a visit to the present Church of the Ascension, which is situated in a courtyard in the centre of the village Et Tur, sometimes called Kefr et Tur. About 30 or 40 years ago I had often visited the place, and hence knew it then well, but now, on coming into the court, I

was struck with several things, as my observation had in this period of time become sharpened. At once I noticed the great irregularity of the court in respect of the lines of the surrounding wall, which must have some meaning, and not be simply the result of careless working when the wall was built. On coming home I searched in my books for a plan of it. The best I found was of the English Ordnance Survey, Plate V. on a scale $\frac{1}{500}$, of which I enclose here a copy to simplify references. As will be seen, the court is neither round nor square nor eight-sided, or if it may be reckoned as such, the sides are of very different lengths,[1] and on some sides, especially the north western, a curve is plainly observed. I measured the court in all its details, and on making a plan on a scale $\frac{1}{100}$, I found this curve to be a part of the line of the original round wall, as marked in dotted lines on the Ordnance Survey Plan; but it proves also that the present Chapel of the Ascension is not exactly in the centre but a little pushed to the south. There are on the southern part of the wall still two old bases of pillars *in situ*, and also two on the northern part, but at different distances, as the plan shows. These pillars stood in the corners of the eight sides, in groups of three, or even more. In the north-eastern base there are indications that there may have been five in each group. Or was it in this one only for some special reason? In some of the existing plans are inserted two bases of an inner row of pillars. I found them not as such, but as remains of a former pavement, which is now removed, except this piece, and a strip from the entrance door of the court to the Chapel of the Ascension. Under the court are two not very deep cisterns; their mouths are marked on the plan. Along the eastern side there are, attached to the wall, stone benches, forming altars for the various Christian denominations: the northern belongs to the Armenians, the next to the Copts, and the southern of the three similar ones to the Syrians. More south is the Latin altar of a different shape, and between it and the chapel is the Greek altar of a rather interesting form, for, as all the others are of common masonry of squared stones, this one is formed in its chief part of the top piece of a pillar shaft more than 3 feet in diameter. It is nearly 4 feet high from the surface of the ground, and enclosed to its full height with hewn stones cut in radius lines, so that the whole makes a round building 6 feet in diameter, to which on the west side are fitted a few stone steps. But the chief object in this court is the Ascension Chapel, which is so well known and so often photographed that it is not necessary to describe it here, only to say what was interesting to

[1] "Survey of Western Palestine," Jerusalem Vol., p. 398: "An enclosure of irregular polygonal form, measuring about 40 feet (it is 95) north and south by 30 (it is 78 feet) east and west." Tobler, "Siloah and Oelberg," St. Gallen, 1853, p. 100: "It is rather a square court"; and the same author in "Dritte Wanderung," Gotha, 1859, p. 355, says: "The wall forms an eight-sided court, but very irregular." And Sepp, "Jerusalem und das Heilige Land," Schaffhausen, 1873, p. 689, says: "The eight sides are very different. It is a very rough imitation of the old."

me. The 16 pillars at its corners (two at each) are very fine ones, bearing arches, and over the latter a ring of projecting *consoles* bearing the tambour ; the latter and many of the *consoles* are a later restoration, but the old ones are nicer, and the whole formed originally an open hall. The filling of the side openings with masonry was done later, and the one towards the west furnished with a door with wooden wings, so the chapel is generally locked up, but will be gladly opened by the guardian for a small bakshish. Inside the floor is paved, and at the southern part is a small space of a square form and surrounded with stones projecting a little. The bottom of this space is formed by a rock-like stone on which people see the footprints of our Lord ! It is a reddish stone, and the print is natural, not chiselled, and shows, not very perfectly, the sole of a human foot or feet—for some people make two feet of it, as was done in former times. More interesting (in respect of archæology) was to me the large and very ancient-looking flagstone on the side of the foot-print space (if it may be called so), which is 9 feet long and 4 feet broad, having at its northern part, just east of the footprint, a bowl-like hole about 1½ inches deep in the middle, where (as the old Sheikh told me) the Prophet Moses had put his staff when consulting with Jesus ! South of it is the small *mihrab* or prayer niche in the wall without special decoration. The stone slab is cracked into many pieces, as if from fire. A similar flagstone of the same size is found west of the entrance gate to the enclosure. So one may suggest that the old pavement consisted of such throughout. The enclosure wall shows marks of having been erected or restored at various periods. The curved portions are in their lower layers the most ancient, consisting of comparatively small, squared stones, the straight parts are also in their lower layers old, having rather larger stones, but the rest and the whole eastern part are comparatively modern. Higher up, in many parts, repeated restorations are visible. This wall is higher in some parts than in others, as the buildings on its outside demanded. Its average height is about 21 feet from the present level of the ground. The entrance is on the west side, and there outside stands a minaret, with a square solid base 16 feet wide each way, and about 18 feet high, above which the minaret becomes hollow and has a winding stair inside. On the outside it is eight-sided. It must have been once destroyed, as even on the basement a restoration is visible. I think the basement was originally built by the Crusaders for a bell tower, and am convinced that the straight sides of the court were also made by the Crusaders, whilst the curved parts are Byzantine. To the south, opposite the minaret, is a rather well-built Mohammedan building. Going towards it from the paved court, one sees in the corner old masonry looking out from the ground, and, passing the entrance gate, one comes first into a porch or hall, and further on to an open paved court of some 25 feet each way, with a long stone bench on its western side, where the wall is high, and has two windows. From this court one can go in three directions : southwards into the mosque, which is 32 feet long and 24 feet wide inside, covered with a semicircular dome, and having

windows on all four sides (*see* Plan I). Going eastwards, one comes to the dwellings of a few Mohammedan families of some ecclesiastical order. First there is a paved court, with the mouth of a cistern and rooms on both sides, also a kind of garden with two olive trees—all standing over old buildings below. Northwards from the mosque court steps lead up to a higher story, where there are only one or two rather small rooms.

SHEET I

PLAN OF THE ASCENSION CHURCH, THE MOSQUE & PART OF VILLAGE 'ET-TÛR' ON MOUNT OLIVET

(Buildings above ground)

10 0 10 20 30 40 50 60 70 80 90 100 FEET

PROPERTY OF THE MOHAMMEDANS
D° D° ARMENIAN CONVENT, JERUSALEM
D° D° GREEK CONVENT, D°
D° D° LATIN D°

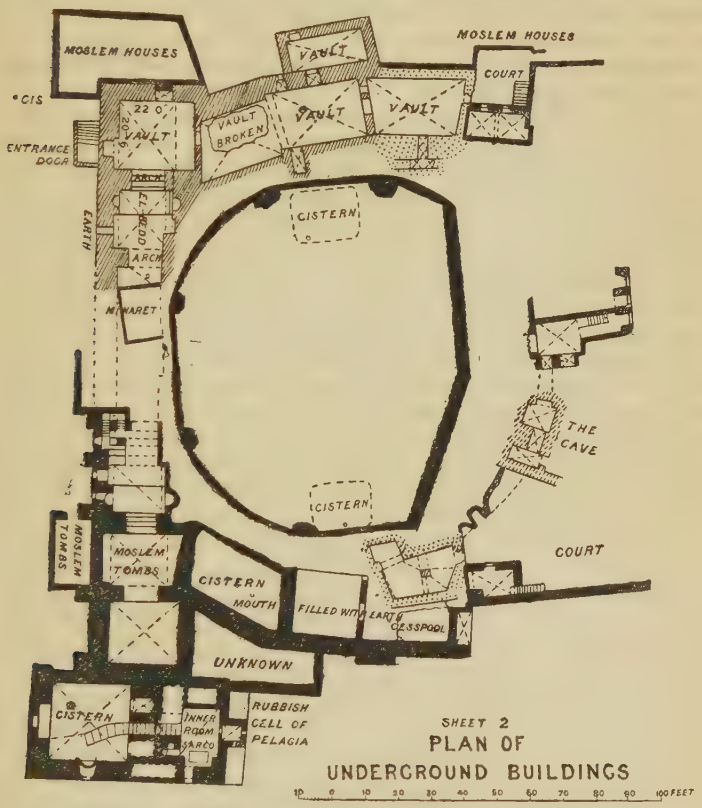
In front of them is a terrace, from which a narrow pathway leads on to the top of the wall north of the minaret. These buildings attached to the wall of the court take up about one-third of its circumference, whereas the other two-thirds are occupied by what may be called fellahîn houses, all of which I have visited and examined, and will now partly describe.

(B.)—*Examination of the Village and the Parts Underground.*

When studying the subject of the ancient Church of the Ascension I found there was a celebrated cave, and several vaults round the inner rotunda, so I came to the conclusion that one at least, but probably two, of these vaults must be looked for outside the present court wall, and the cave underground. As I had observed windows lower down than the flooring of the porch and the large court north of the mosque, it was clear that there must be some underground vaults there; and as there is a flight of steps west of the village and north of the minaret leading down to a locked door, apparently there were undergound vaults there also, and these I wished to see, but the people told me that this latter is Armenian property, and I could not go in without leave. It was strange for me to hear this, but I went one day to the Armenian Convent and explained my wishes to the Secretary. He was rather glad about my intentions, and on the condition that I should afterwards give him a copy of the plan I intended to make, he ordered the man having the charge of their property on Mount Olivet to show me everything there. This man was for many years engaged in the Armenian Convent as a *cavass*, and by Ibrahim Pasha, more than 50 years ago, when he was still a young man, was made the sheikh of the village Et Tur. So a few days afterwards, when showing the houses, &c., of the village to me, he carried his official sword, and with a loud voice commanded the people to open their doors and to let me in and examine and measure the places. I had two assistants with me; they measured and I made the notes. We began west of the village, and going down the steps there, and through the opened gate, came into a large vaulted room, dark, and with stores of wood, &c., in it (*see* plan, Sheet II). From it southwards five broad steps brought me down into another vault, which they called *El Bedd*, *i.e.*, an oilpress. Here I found a regular oil-press, its long beam going through a former window. But, what was of much more interest to me, there were two small apses, one in the east and one in the west wall, built of very nicely cut stones, but now to some degree decayed. This place was on the south shut up by the underground masonry (or foundations) of the basement of the minaret, which, as well as parts of the eastern wall there, are of quite another kind of masonry, and I think are Crusaders' work, whereas the rest (*i.e.*, the main parts) are Byzantine. In the arching, near the base of the minaret, is a skyhole for ventilation.

As the door east of the first vault was blocked up we had to go back, so I measured round the houses along the road to and with the first lane (*see* plan, Sheet I), and then the room A, which is used as a passage and as a stable. Going up by a few steps from this we reached a large free space, a kind of terrace, in the middle of which is a large opening into a vault beneath. Turning to the right hand we came to two rooms inhabited by Mohammedans, who pay rent to the Armenian Convent. These rooms were originally one, but are now divided into two by a thin wall; the rest there are ruins. We next went eastwards, and measuring

over the terraces came to the second lane, and through a door southwards in a court surrounded by rooms; three, and a kind of stable, belonging to the Armenians, and one to the Roman Catholics. All these rooms were apparently situated on vaultings below, which I afterwards found to be the case. The two southern rooms in this court are attached to the wall of the court of the Chapel of the Ascension, and over the northern two stand upper rooms—the western belonging to the Armenians, the



eastern to Moslems. There are steps leading up to them. When done here we had to go out into the second lane and to the main road, going along the northern edge of the village, and so eastward until we came to the third lane or main street of the village. There are many new and nice-looking houses, which I did not measure, as they have no bearing on the old church. At the door B we went in, measuring westwards through a court till to the second court, and the rooms on both sides of it. Meanwhile, the door C (*see* Sheets I and II) was opened, and on entering

we had to light our candles, as this vault was entirely dark and filled with *netsh* (a kind of brushwood). Yet I was able to take the measurements with rods, and the bearings with the compass. On the south there is a kind of opening or recess in a thick wall, which seems to consist of two walls, as there is a joint in the middle of it, and inside a narrow passage blocked up on both sides. I cannot tell what it has been for, I was thinking of a staircase, but saw no steps. This vault, and a room already mentioned, which is over it, belong to the Latins. When finished here we measured the adjoining room, and then up the steps and the rooms of the upper story. What is under the room D I cannot tell, as I found no entrance to it, nor to the adjoining place marked in plan, Sheet I, as "unknown." We next went up to the roofs of all these rooms, measuring them, and the outside of the court wall of the chapel, which rises about 7 feet higher than these roof-terraces. Then we had to go down and back into the main street of the village, measuring court E and room F, and to the lane G, measuring there all round about. On the room H stands another room as second story, belonging also to the Armenians. Interesting in this court are the three doors, one near to the other, leading to long and curious-shaped vaults, all quite dark, and forming partly two stories, *i.e.*, one vault above the other. The rooms behind (on Sheet I), and attached to the court wall of the Chapel of the Ascension, are situated somewhat higher, and it seems there is now nothing underneath them, except earth. There are next towards the south some inferior rooms and courts belonging to the Greek Convent, and the cave, as they called it, old walls very strong and still arched. Then comes the fourth lane, from which a door leads into a large open court, apparently part of the former Augustinian Convent, to which several of the rooms already described also belonged. On the west side of this court there are several rooms, in two stories, belonging to the Latins, who have put the Jerusalem cross over the doors. Then we had to go back again into the road, and thence into the field, or garden, in order to measure the outside of the walls and the south side of the place as far as the gate of the "Pelagia" chapel. When this was done we examined the latter inside, and then continued along the outside of the walls northwards to the minaret and the steps beyond where we had begun some days before. I wished now to see and measure the underground vaults on the south side under the mosque and its court, &c. But I could not effect it, as there are tombs of Mohammedan saints there, and it is not lawful to let any Christian go in. But they showed me the door and the stairs leading down to the tombs as I have put them in the plan, Sheet II. They said the vaults are exactly like those on the northern side[1] (or *El Bedd*), and not extensive, only under the court of the mosque, and not fully reaching to the wall of the latter, and that all further vaultings, if there are any, are walled up, which I think is true, as there are in the walls no windows or other opening visible. A large

[1] Hence I have entered them so in the plan.

piece of vault is converted into a cistern, and others are filled with earth, and trees growing in it.

I wish especially to remark that in these measurings and examinations I *did not meet with the rock*—not even at the deepest points. All is masonry, so I think the rock with the footprint, which is the highest spot of ground, is not rock, but a stone, and that there is so much accumulation of earth and *débris* at the Ascension Chapel, the village, and all around, that the present floor of the church court is about 15 feet higher than the original surface of the ground.

(C.)—*The site of the Ascension of Our Lord.*

In St. Luke xxiv, 50, we read: "And he (Jesus) led them out as far as to Bethany, and he lifted up his hands and blessed them . . . and he was parted from them and carried up into Heaven." Accordingly some think the Ascension took place in the neighbourhood of Bethany; but in Acts i, 9–12, the same Evangelist mentions the Mount of Olives as the site, and has certainly not contradicted himself. It is also remarkable that in the earliest Christian time, at least in the fourth century, the top of the Mount of Olives was considered by the Christians to be the spot whence Jesus went up to Heaven, and so through all ages until now. And it is at the same time the most probable spot. At the foot of the mountain, He underwent the deepest humiliation and agony, and from its top went into Glory. St. Luke says also in one of the passages quoted, that the moment of the Ascension was, when he was blessing the disciples; in the other: "when he had spoken these things" (narrated in Acts i, 4–8) "he was taken up and a cloud received him out of their sight." Taking this and all other circumstances together, I picture to myself this event as follows: Jesus, when staying at Jerusalem, went often out to Bethany and to the Mount of Olives, and looking carefully to all the passages telling this, one Evangelist says Bethany (Matt. xxi, 17), the other the Mount of Olives (Luke xxi, 37), so that both are synonymous; and so apparently were taken by St. Luke. On the last walk of our Lord with His disciples, he went the way towards Bethany, not over the top of the mountain, but by the road going round the southern slope, which was broader, so that the disciples could walk round their Master, whereas on the road over the top, one would have to walk behind the other. Coming to the neighbourhood of Bethany the company went northwards over the hill situated west of that village to the traditional Bethphage, and thence to the road going westwards over the top, which they followed, and, on arriving at the point where the view of the city opens, Jesus stretched out his hands and blessed them, already rising from the ground, and the disciples saw him rise higher and higher over the top of the mountain[1] until a cloud received him out of their

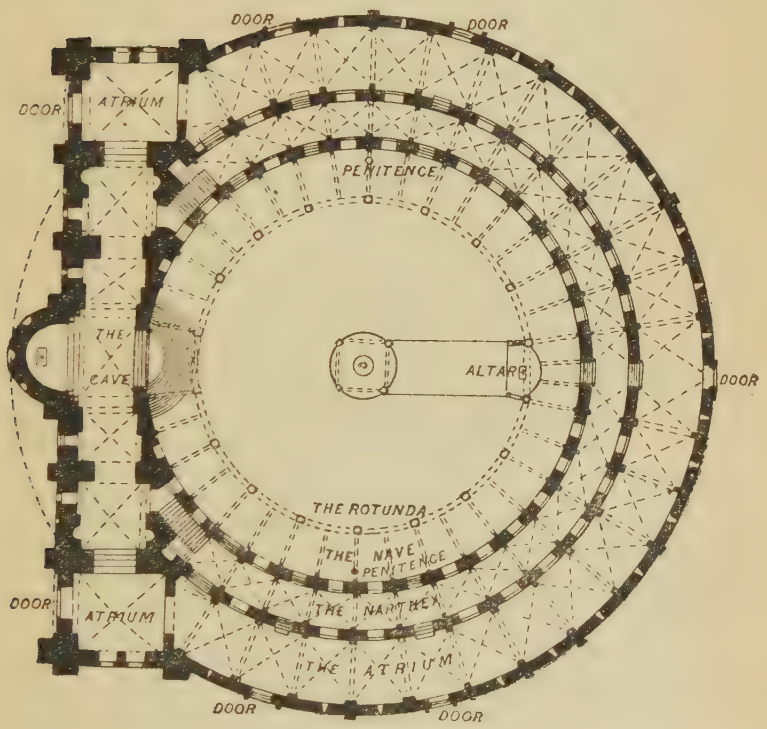
[1] The disciples had to look toward the north-east, and Christ had his face towards the south: hence the footprints are shown so.

sight, and they, going also higher and towards the west, and looking upwards towards Heaven, in the hope to see Him once more; then descended a little the western slope of the mountain, when the two men in white apparel appeared to them, saying: "Ye men of Galilee, why stand ye gazing up into Heaven? This same Jesus . . . . shall so come again as you have seen Him go into Heaven." The buildings standing at that time on the top of the Mount Olives extended more to the north than now, so that the Ascension took place very near, but south of them, where one had already a view of the city. This wandering of Jesus from place to place before the Ascension actually occurred reminds one of Elijah, who went from place to place, till at last he was taken up. Thus it seems to me that the site on which in later times the church was built may be the right one, and if not, it cannot have been far from it. The exact spot did not so much matter; the church was to be a monument of the glorious entering of our Lord into Heaven; and it would have been most remarkable if in these centuries such a memorial monument should exist without a *cave!*

(D.)—*The Byzantine Church of the Ascension.*

In the fourth century, when Christendom had got the rule, many churches were built in Palestine. In Jerusalem the Church of the Holy Sepulchre, in Bethlehem the Church of the Nativity, and on the Mount of Olives the Ascension Church. We have no description of the first church built on the top of Olivet, but it is called a *basilica*, and as such had in general a quadrangular form, so some think. The first Ascension Church also was quadrangular, and Modestus afterwards built a round one. But I should think that the Constantine Church was also round, and that the name basilica was applied at that time to any large church. It was natural to form a round enclosure about the spot where Jesus was standing in the midst of his disciples, and from which he went up to Heaven; a square would have seemed less appropriate. But strange to say they first made a mysterious *cave* which was adorned and decorated in a costly manner, and over it was built a large and high temple. In the middle it had no roof, but grass was growing there, it was not paved, and the footprints of the Saviour could be seen in the dust. It appears that this first church was after a time partly destroyed, so the Patriarch Modestus, in the first quarter of the seventh century, built it, for the most part, new, and of this new church we have a description and plan, by Arculf (*see* the plan); he says that "on the highest point of Mount Olivet, where our Lord ascended into Heaven, is a large round church having around it three vaulted porticoes. The inner apartment is not vaulted and covered, because of the passage of our Lord's body; but it has an altar on the east side, covered with a narrow roof. On the ground, in the midst of it, are to be seen the last prints in the dust of our Lord's feet, and the roof appears open above where he ascended . . . . Near this is a brazen wheel as high as a man's neck, having an entrance

towards the west, with a great lamp hanging above it on a pulley, burning night and day. In the western part of the same church are eight windows, and eight lamps, hanging by cords opposite them, cast their light through the glass as far as Jerusalem." ("Bohn's Transl.," p. 5.)[1]



[1] *Cf.* Palestine Pilgrims' Text Society, "The Pilgrimage of Arculfus in the Holy Land," 670 A.D., translated and annotated by Rev. James R. Macpherson, B.D.,

Willibald some years later (A.D. 722), says :—"In the middle of the church is a square receptacle beautifully sculptured in brass on the spot of the Ascension, and there is on it a lamp in a glass case, closed on every side, that the lamp may burn always, in rain or in fair weather ; for the church is open above, without a roof." ("Bohn's Transl.," p. 19.)[1] Now by aid of these descriptions, and from what I found on the spot, I have reconstructed this church (*see* plan on Sheet III), and have to make the following explanatory remarks :—

There are three vaulted "porticoes" mentioned by Arculf going round the uncovered rotunda, their width and extent according to remains found on the spot. The inner one will correspond with the nave of the ancient churches, the middle with the narthex, which is narrower than the others, and the outer one with the atrium. Of the two latter (or outer ones) the circle is not complete, but brought to straight lines, and in the middle of them is the celebrated cave, which is still existing. Not a cave in rock, but all of masonry, similar to the one in Bethlehem, the floor lying several steps deeper than the level of the main building around. It is true I have not *seen* this large apse, with its steps, pillars, altar, &c., but the circle of the outer corridor or portico *demands* something there, as I show in dotted lines, and as Arculf's plan has the outer circle complete, and no entrance there, as afterwards the Crusaders' church had, so nothing else than an apse could have been there. From the cave, processions could be made not only into the rotunda, going up by about 12 steps, but also through the three vaulted porticoes, which were also connected one with the other by many openings, especially by doors with steps on the north and south sides. In regard of these doors I wish to remark that in the plan of Arculf, brought down to us by Quaresimus, are shown three doors on the north side—but in that brought down by Mabillon they are on the south side, so I conclude these doors were on both sides, three on the north and three on the south side, which answers also better to symmetry and the whole design. The points for fixing them in the plan (Sheet III), besides following Arculf's plan, I ground on the corner A, in the middle wall, still existing as Byzantine work. As afterwards in the Crusaders' church there was also a door on the east side, so I think it was also in the Byzantine church.

The walls of the latter were thinner and the stones more nicely worked than those the Crusaders built. The axis of the first or Byzantine church, when extended westwards, strikes the Church of the Holy Sepulchre in Jerusalem, meeting the axis of that church, whereas (as will be found by comparing both plans) the axis of the Crusaders' church, if extended, would strike the Templum Domini, or the Dome of the Rock ;

1889, pp. 22–26. Version there given differs from Bohn's translation, and a plan of the church is sketched, p. 25, from the original MS.

[1] Palestine Pilgrims' Text Society, "The Hodœporicon of St. Willibald," 754 A.D., translated by Rev. Canon Brownlow, M.A., 1891, p. 22. Version differs from Bohn's translation.

the difference or declination being five degrees. In the outer wall I put seven doors: two on the west or front side, leading into the atrium or outer corridor, to the right and to the left; two on the north, and two on the south side, opposite those in the middle and inner walls, making three for each side, as Arculf states; and then one behind, or in the east, making up the seven.

In regard of the brass "receptacle" round the footprint place, which Arculf gives as *round*, and Willibald as *square*, I think both are right from their point of view, the railing "about as high as a man's neck," was *round*, but the ever burning light in a lantern hanging *over* the footprints, had to be fixed on something higher up, and as there was not any roofing, it could only be done by means of posts on, or over, the railing, and if they were four in number, made a regular and conspicuous square; opposite in the east was the altar with the "narrow roof."

In regard of the eight lamps giving such a great light and shining towards the Holy City, the real arrangement cannot properly be seen from Quaresimus's copy of Arculf's plan. They are put as openings in the third circular wall, with rounded projections on the inner and outer side, whereas Mabillon's plan shows some connection with the second or more outlying wall, indicating that the lamps were hung between them, which I think was really the case. So I have in Sheet IV[1] given a plan of a higher story, forming there a kind of covered corridor in which the lamps hung, and which had in front of it a terrace, and at both ends towers, as the church was at the same time fortified, like the Bethlehem church. The two large doors I give, of the same shape as the still larger ancient door of the Church of the Nativity, at Bethlehem. On the apse outside I put three mihrab-like niches, in order to break the bareness of the wall on its outside, as windows could not have been there, because they would have lighted the apse and diminished the glittering of the inside, caused by the lamps burning there. Such places for glittering show wanted some darkness, and hence the place called "cave," even as that in the Bethlehem church, which is also *built*. (I may, perhaps, mention here that the floor of the old Nativity Church at Bethlehem does not rest on the natural ground, but on vaultings throughout, which were once used as a cemetery, for when I examined them I found them full of human bones and mould.) The roof of the inner corridor round the rotunda consisted, I think, of timber and a covering of metal—and so very likely also the outer ones, but this is not so certain, though probably nearly all large old churches were covered so.

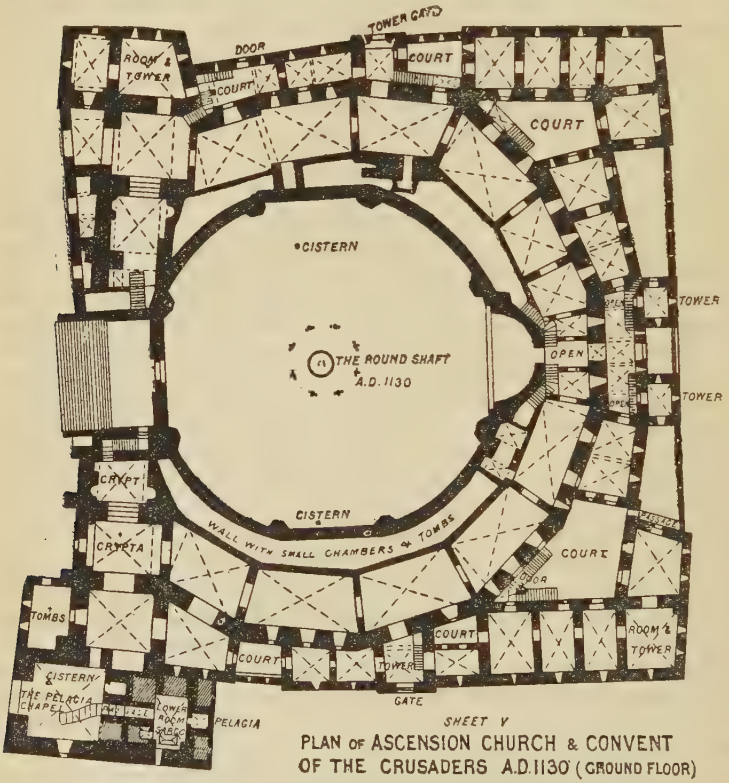
(E.)—*The Crusaders' Church of the Ascension.*[2]

The Byzantine church on Mount Olivet was, in the eleventh century, destroyed. The Crusaders found there, instead of a church, a "wall,"

[1] Sheets IV and VI are not published with this paper, but are preserved in the office of the Fund.

[2] *See* "Memoirs," Jerusalem Volume, p. 398.

within which the site of the Ascension was marked with a small, tower-like building. So they built a new church, of a somewhat different shape from the other, an eight-sided edifice, with much thicker walls, and with an axis declining five degrees in a direction to the Templum Domini, or the present Dome of the Rock. In Sheets V and VI, I give the plan of the lower and higher story, as I have restored it, together with the "Augustinian Convent" round it, from existing remains, and from



notices in books. The former cave was abandoned, and on the west side a grand staircase with a threefold entrance made. On the sides towards three of the cardinal points, straight walls were introduced into the circle, and on the east side a large apse placed. The four intervals between the new straight pieces were left with their circled line, but greatly strengthened on the outside for supporting the pressure of the grand vaultings in the inside. (It may be that in these immensely thick

walls, which are on the outer side not round nor eight-sided, but rather twelve-sided, as Sheet No. V shows, tombs or other small chambers may be inserted, but which I have not detected.) The vaultings of the inside were so, that an eight-sided uncovered space, or rotunda, remained, 86 feet diameter, as it is given in Sheet VI, with the respective supports, and in dotted lines. As there are a few of the bases of the supports still *in situ* along the wall, I was able to introduce the missing ones, and the shape of the inner or free-standing row. Each of these supports consisted of three or five[1] pillars, with a pier. In the centre of the uncovered part stood an octagonal porch on 16 small pillars, with small piers at the corners, on which were arches, a tambour, and a dome, just as it is still; only that the sides are now filled up with masonry, a door being left in the west. This building stood over the *footprints* of our Lord, but something deeper down than the general flooring of the church, so that people, in order to see it, had to look down into a round shaft. This was caused by the accumulation of *débris*, &c., from the former church. The new flooring was about 6 feet higher than that of the former church. The space of the former outer corridor, or the "atrium," was converted into a number of vaults, as shown in No. V, for use of the convent, and as no longer properly belonging to the real church. Outside them was built a further row of vaulted rooms for the convent, with the necessary stairs, &c. On the outer side of the church wall (or place of the former narthex) a number of cells or chambers for the monks were built, as shown in Sheet No. VI, as a kind of higher story, in such a manner that in front of them the roof of the large vaultings below formed a terrace going round, on which, towards the outside, were other and larger rooms of the convent. It may be that on the inner row of the five-pillared piers, or on the eight-sided rotunda, a dome was put up, with a large opening in the centre, like the rotunda of the Church of the Holy Sepulchre, but this is not certain. I have not found any indication of such. At the chief entrance to the church, situated in the west, one came first into a porch, from which three doors led into the church, smaller doors on the three other sides leading from the convent.

It seems that the pilgrims made no special distinction between *round* and *eight-sided*, as some use the expression *round* for the same building which others describe as eight or even (Gumpenberg)[2] twelve-sided. The size or circumference of the building is very seldom mentioned by the pilgrims, but Gumpenberg (about A.D. 1200), when the buildings were already partly destroyed by Salah Ed Din, gives the circumference as 225 steps, and says: "I measured the ring on the top, and found 225 of my own steps," which we may estimate to be about 560 feet. As the Crusaders' church was not completely eight-sided on the outside, but according to this very writer twelve-sided, I think he measured the

[1] Some of the remainder show three pillars, one even five, which is rather the right number.

[2] Tobler, "Siloah und der Oelberg," St. Gallen, 1852, p. 98, note 3.

line the terrace describes towards the walls of the buildings of the convent outside ; the very number of feet comes thus out. This line corresponds also with the *outer* round wall of the Byzantine church. Surias gives 130 steps, or about 340 feet, and means the wall of the church *itself* without the surroundings, and Ladoir's 50 steps *diameter* will be nearly the same if we allow that all the steps of these various men were not all of equal length. Why do I say all this? Answer : to prove that this church with its surroundings was much *larger* than it is generally believed to have been, and that even the Byzantine church had a much larger extent than that of the present enclosure of the court, even if the piece in the east, cut off by a wall, be added to it again.

The difference of the Crusaders' church from the Byzantine was, that it was built entirely of stones, with no wooden roof, and hence with much thicker walls. It had only one row of porticoes, and instead of the two others, an enlarged convent, with gates, towers, small gardens, &c. The axis declined five degrees, and the chief entrance was in the west, whereas the former building had the entrance in the north and south. The flooring was some feet higher, and the chief apse was in the east.

(F.)—*The Convent connected with the Ascension Church.*

We find some notices that even at the Byzantine church there was a convent, if not immediately connected with it, yet close in the neighbourhood, but not so extensive as it afterwards became. As we do not know any particulars about it, I have not put it on the plan of the first church, but on that of the second or Crusaders' church. In the Byzantine period, these convents were rather small, built on the ideas of the Ascetics, and similar to the "Lauras" of the time. But later on, when the church had become more worldly and had an inclination to *rule*, such edifices were built under *these* ideas and for these purposes, and the churches were now fortified. When the Crusaders built their church, they apparently built the convent at the same time, especially those parts immediately outside the reduced church, perhaps also the outer parts, and formed a kind of castle with towers at the corners and in the middle of the sides, over the gates, as I have shown in the plans on Sheets V and VI. The convent consisted of large vaults round the church, and many other rooms in two stories, intermixed with small gardens, terraces, stairs, &c. In the year A.D. 1484 it was already a good deal broken and destroyed, but many walls, vaults, and heaps of *débris* were still standing. Fabri tells us that he found the east end of the church destroyed, and a wall made across the middle of the church, outside of which stables for animals and dwellings for husbandmen had been built.[1] In the beginning of the fourteenth century there were on the Mount of Olives many prayer places, chapels, convents, and hermitages, beyond the convent, which was close to the large round church, which had then in the centre a small chapel over the footprints.

[1] Palestine Pilgrims' Text Society, "The Book of the Wanderings of Brother Felix Fabri," translated by Aubrey Stewart, M.A., 1892, vol. i, pp. 484–500.

In the ruins of the convent the Mohammedans erected on the south a convent and a mosque of their creed, and at the former entrance to the church a minaret, which, as well as their convent, is still in existence.

(G.)—*Saint Pelagia Chapel.*

This is called by the natives the "Cave of Pelagia," the "Hermitage of Adawî, or Bint Hasan"; and the Jews call it the "Tomb of Huldah." It is situated south-west of the Ascension Church, on lower ground, as shown in plan, Sheets I and II. It is a chapel-like room with another one smaller, and situated still lower, formed of immensely thick walls and vaulted (*see* "Memoirs," Jer. Vol., p. 399). Pelagia was a sinful woman of Antioch, who became converted, went to Jerusalem, and as a penitent lived several years in a small cell, continually praying and fasting, in the disguise of a monk. Deacon Jacobus from Antioch paid a visit to her cell, and on his knocking at the small window, she opened it and said: "From whence come you, brother?" He answered: "I am sent by Bishop Nonnus." She said: "May he pray for me, he is a truly holy man," and then shut the window again, and said the third *hora*. Jacobus says: "Her beauty had gone, she looked like a dead person, the eyes lying in deep holes." After a few years she died (A.D. 457). The cell in which she lived is (now) 6 feet 2 inches long, 4 feet wide, and 6 feet high. The entrance is rather narrow and low. A little window was either in the east or the south side[1] (*see* plan, Sheets II and V). There were apparently more such cells in the neighbourhood, each built *single*, with thin walls of *nahry* stone (such as can still be seen in the old Lauras at Khureitûn and other places in the wilderness), which at a later time were all brought under the roof of *one* building, as it stands now; and hence the extremely thick walls; that between the outer and inner rooms is 16 feet thick! Besides the Pelagia cell, there are remains of one in the south-western corner of the smaller or inner room, and a complete one, nearly of the same size as Pelagia's, in the east wall of the outer larger room (the chapel). There is also a cistern, indicating that at the time when the cells were occupied there was a kind of court, over which afterwards the chapel (or, as the Crusaders called it, the "church") was erected, in a period prior to the Crusades; it had then a wide entrance, and was, therefore, a kind of hall (as shown in Sheet V), which at a later restoration was walled up, leaving only a small door (Sheet II). North of it, there had at this time been erected another vault over tombs (Sheet V), but it became destroyed and was not restored.

Over the entrance to the Pelagia cell, on the east side of the inner room, are some decorations carved in the stones in relief; but plaster is now over them, and so I could not see what they represent. On the south side stands a stone sarcophagus, half intruded into a low niche, over which, higher up, there is in the wall a window giving some light to the

[1] As the walls of the whole buildings are *plastered*, the former openings cannot be recognised.

somewhat obscure place. This sarcophagus is mentioned by the pilgrims of the twelfth century, who used the narrow passage between it and the wall, as a path of penitence ; for if one had not confessed all his sins, and he went along this path, the stones moved and narrowed it, so that he could not go on until he confessed. Tradition says that the body of St. Pelagia rests in this sarcophagus, which bears a Greek inscription ; this was copied by De Saulcy (2,282), and hence I did not look for it, as the stone is covered with a green cloth, and the sheikh who was with me treated it with the greatest veneration—always whispering prayers as long as I stayed with my men in the room. The outer or larger chamber is considered as a mosque, but very seldom used ; the lock is in disorder, and could be opened only with difficulty. The floor of the smaller or inner room is situated 7 feet lower than that of the outer one ; twelve steps lead down to it, as the plan shows, and I think two stories of small cells (tombs) may be found in the thick walls.

(H.)—*The Footprints of Christ.*

As I have mentioned these above, and also introduced them in the drawings, I should also say something about them, but will do so very briefly. In the course of the centuries, *two*, *i.e.*, prints of both feet, were spoken of, but also only of *one*, as the other was taken away and brought to the Aksa mosque. Sometimes they are described as if Christ had his face towards the south ; in other reports in some other direction. In the first centuries they were in earth or dust in a round hole, a few feet deeper than the general church floor[1] ; later on in rock, and in the various centuries of various size. Originally a little lower than the level of the ground, in the Crusaders' times, as the church floor was then higher than before, the footprints were deeper, and one had to look down to them in a round shaft or pit. Afterwards there was only *one* foot, on a level with or even a little higher than the Crusaders' church floor, in a *stone* (not rock), and of the natural size, whereas in former times it was double the natural size, and people accounted for that by the many rubbings and kissings. Felix Fabri tells us that one of his fellow-pilgrims put wine into the hollow formed by the footprints, and the rest licked it out.[2] Both Christians and Mohammedans still venerate the spot. (*See* Tobler, "Siloah und Oelberg," St. Gallen, 1852, pp. 105–114, where all this is minutely explained.)

(I.)—*The two Pillars in the Ascension Church.*

Willibald, A.D. 722, says : "Two columns stand within the church, against the north wall and the south wall, in memory of the two men who said : 'Men of Galilee, why stand ye gazing up into Heaven ?' And the

[1] This hole was surrounded by a brass railing, and if one put his hands through the lower part he could take some of the earth.

[2] "Felix Fabri," vol. i, p. 487, Palestine Pilgrims' Text Society.

man who can creep between the wall and the columns will have remission of sins." (Bohn's "Early Travels in Palestine," p. 19.)[1] In the fifteenth century these pillars were still standing and "smooth," and it was believed that if any one was able to embrace them, so that the ends of the fingers (or only the middle fingers) could touch, it was a proof that he was a good man. They were still standing in Mejer Ed Din's time, and I should think the pillar in the centre of the Greek altar, described above under heading A, might be one of them, but removed and brought to this place, as it is now a good distance from the wall.

(J.)—*The Cisterns.*

The two cisterns in the present court are not deep nor cut in rock, but *built* at the time when the level of the floor of the church was made higher by the Crusaders. But their lower part may be still older; for as the rotunda had no roof the rain water had to be led into some reservoir. Other cisterns I have not found in the ruins, or in the village, except one in the court of the mosque, made from an old Crusaders' vault when the mosque was built. There is a good number of other cisterns outside round the village and the other buildings, even near the road crossing the mount south of the village, chapel, and place of Pelagia. They are all deep and cut in the rock.

Conclusion.

I could have said much more on all these matters, but was careful not to become too long; and yet the reader has a great task before him, for which I beg excuse, and wish the reader may enjoy it, as much as I have enjoyed writing down these lines and making the plans.

KERAK IN 1896.

By Rev. THEODORE E. DOWLING.

THERE is no necessity to attempt to write the history of Kerak, the ancient capital of Moab, down to the siege of Saladin, A.D. 1188. Canon Tristram has told the story in "The Land of Moab."[2] But the Old Testament references may be mentioned :—

Kir-Haraseth (Isaiah xvi, 7);
Kir-Hareseth (2 Kings iii, 25, R.V.);
Kir-Haresh (Isaiah xvi, 11);
Kir-Heres (Jeremiah xlviii, 31, 36); and
Kir of Moab (Isaiah xv, 1);

[1] "Hodœporicon of St. Willibald," p. 22, Palestine Pilgrims' Text Society.
[2] Chapters v, vi.

are the six Scriptural allusions to Kerak, the fortified town to the east of the southern end of the "Salt Sea."[1]

Jehoram, son of Ahab, King of Israel, and Jehoshaphat, King of Judah, and the King of Edom, invaded the kingdom of Moab, under Mesha, from the south, destroyed all its cities, sparing only Kir-Haraseth, *circa* 872 B.C. (2 Kings iii, 25; and the Moabite Stone.)

Being detained eleven days in Kerak last May during the absence of the Mutasarif, whilst waiting for permission to visit Petra, opportunities occurred for observing the improved state of things. Page 180 in Murray's "Handbook for Travellers in Syria and Palestine, 1892," is now out of date, owing to the changes caused by the Turkish occupation; and Bædeker's "Palestine and Syria," 1894, pp. 191–193, on el-Kerak, also requires revision.

I propose, therefore, to limit my remarks—

(1) To the period immediately preceding 1893; and
(2) To the present Turkish rule in 1896.

The large, partially-ruined castle, built about A.D. 1131, on ancient Moabite foundations of rough flint, at the south end of the city, was only used in Mujêly[2] times by thieves for hiding stolen cattle and goods. The Kerâki used to find saltpetre there in large quantities from a particular kind of stone in the ruins, with which they manufactured their gunpowder.

The ignorance of the Kerâki is illustrated by their mode of reckoning time. Years and months were unfamiliar terms. If asked when such and such an event took place, they would reply, "when" or "before," or "just after, so and so (perhaps one of their Sheikhs) died, or was killed"; or perhaps, "in the year of famine"; or may be, "when Ibrahim Pasha[3] came here." More recent events, especially in cases of illness, were dated from "last year's ploughing," or "the barley" or "wheat harvest."

The Kerâki women are unveiled, and I was surprised to find less ophthalmia in Moab than is usual in the villages of Judæa, flies, sand, and dust being less prevalent.

[1] "Names and Places in the Old and New Testament and Apocrypha," 2nd edition, p. 111. Kerak (*Khel Kerak*) the ancient Tarichæe, on the south-west side of the Sea of Galilee is, of course, distinct from Kerak of Moab.

[2] Before the Mujêly conquest of Kerak, Moab was under the rule of a tribe (still found in Kerak) called the Saraîeh; and again, before their time, the tribe of El-'Ahmer was dominant. These El-'Ahmer only lived in tents, and ruled over many neighbouring tribes, including the Beni Sokhr, as well as the Kerâki. They were cunning and cruel, and thought little of running a spear or sword into a man or woman through sheer wantonness.

[3] Ibrahim Pasha visited Moab in A.D. 1844 to subdue the lawless Bedouin. After occupying the castle (not the town) his troops were starved out, many of them being slaughtered outside. "The Land of Moab," pp. 77, 78.

In Jerusalem it is noticeable how few tourist dragomans have ever visited Kerak. [Messrs. Jamal and Domian are exceptions.] This is not, however, altogether surprising. The Mujêly tribe were unreasonable in their treatment of Messrs. Irby and Mangles in 1817, De Saulcy in 1851, Canon Tristram in 1872, and Mr. and Mrs. Gray Hill in 1893.

But the road is open to Kerak from Jerusalem, and the Hebron merchants who used in old times to travel along the familiar track, south of the Dead Sea, now invariably cross the new wooden bridge at the ford of the Jordan, passing through Mâdeba, and returning by the same route.

On a clear day Jerusalem, and the Russian tower on the Mount of Olives, can be seen from Kerak.

Kerak is apparently about 700 feet higher than Jerusalem, and 3,400 feet higher than the Mediterranean Sea. In October, 1895, the Rev. C. T. Wilson found that the readings of his barometer during four days at Kerak gave 700 feet as the mean height of the C.M.S. Mission House at Kerak above the C.M.S. Mission House in Jerusalem. This calculation exactly tallies with observations made with the same barometer in November, 1894. The road to the north of the town, at the point where the ridge dividing the Wady Kerak from the long slope down to Rabaá is crossed, is about 200 feet higher than the town end is, according to Mr. Wilson's aneroid, and exactly the same height as the top of Jebel Shîhân. As confirmation of the correctness of these readings it may be mentioned that this aneroid has on four separate occasions given the same measurements as in Bædeker's "Palestine and Syria" (1894), p. 191, for the depth of the Môjib, viz. :—2,000 feet from the edge of the plateau on the north, and 2,200 feet on the south.

His Excellency Hussein Helmy Bey Effendi (formerly Turkish Secretary at Damascus) is the Mutasarif. He is a strict and devout Mohammedan. On no consideration will he receive any presents. He also discourages travellers from giving backhshêsh to the soldiers he sends for their protection between Kerak and Wâdy Musa. Considering his difficulties he has already accomplished much. The disarming of the Kerâki ; the regulation of the coinage, weights and measures ; the establishment of a weekly post to Jerusalem, Damascus, and Maân (east of Petra) ; the opening of a military hospital ; the importation of a Jewish doctor ; the continuous construction of extensive Government buildings ; and the compulsory planting of fruit trees at Mâdeba,[1] all bespeak energy and determination.

The Mutasarif is anxious for telegraphic communication with Es-Salt, and for a steamer on the Dead Sea, running from Erîha (Jericho) to the nearest point for Kerak, about 30 miles. Kerak is (say) 10 miles from the mouth of the Wâdy Kerak, near the Shawârineh Camp.

There is a population of about 10,000, of whom 2,000 are Orthodox

[1] 5,000 grape vines, as well as mulberries and vegetables, have been planted this spring in Mâdeba. A feeling of security encourages this action.

Christians, including two Christian and four Kerâki encampments in the district.

The Military Governor has 1,200 Turkish troops, consisting of three regiments of 400 men. They inhabit the castle, the numerous underground passages of which, as they are gradually cleared from the *débris* of centuries, soon become occupied by men and horses. All the Turkish soldiers are from the western side of the Jordan, three years' service being required of them. There are also 200 Circassian mounted soldiers, mostly from Ammân (Rabbath of the Ammonites) and Jerash (Gerasa); and splendid horsemen they are! Kerak (unlike Jerusalem) has no military band, but the familiar bugles are seldom silent.

A new mosque (the only one) has been lately built. The Mufti is a kindly-disposed and intelligent man. He was educated at Hebron and the University of Cairo (El Azhar).

The Orthodox Christians worship in the Church of St. George, built and endowed in 1849 by the late generous Metropolitan of Petra, out of his private means.[1] It will shortly be enlarged and improved. The Archimandrite Sophronius, in charge, is a Greek, and has lately been sent from the Convent of St. Constantine, Jerusalem. He represents the Patriarch. Sâleh is the Arab parish priest (married), and has the cure of souls. There seems to have been among Greek and Latin ecclesiastics a confusion between Petra and Kerak, and Burchard of Mount Zion, the German Dominican, A.D. 1280, mistook Shôbek (Montreal) for Kerak.

Robinson, in his "Biblical Researches in Palestine," vol. ii, p. 577, refers to Kerak as being sometimes held to be a "second Petra." There is a curious confusion in "The Book of the Wanderings of Brother Felix Fabri" (*circa* A.D. 1480–1483), vol. ii, Part I, p. 184. "This noble castle is called by the Latins Petra of the Wilderness, by the Saracens Krach, and by the Greeks Schabat. Now, when we had gazed our fill thereon, we kneeled towards the place, praising GOD, Who from Petra in the Wilderness sent to us through Ruth CHRIST the LORD of the World, and we prayed to GOD that this Castle might come into the hands of the Christians, and that Jerusalem might not any longer be a captive."

The titular Greek Bishop of Kerak is entitled "*Metropolitan* of Petra, Most Honourable Exarch of Third Palestine and Second Arabia." The present occupant is Nicephôrus, an aged man, who has never visited Kir of Moab. There are 120 boys and 60 girls in the Orthodox Church Schools, and the schoolmaster speaks a little English. Daniel, a Cypriote, is the titular Archbishop of Kiriakopolis (Madeba); Damian, from Samos —in charge of Bethlehem—is Archbishop of Philadelphia (Ammân); and Epiphanius, a Cypriote, is the learned Archbishop of the Jordan.

The Latins have also their titular Archbishop of "Petra." Mgr. Duval, a French Dominican, lately appointed Apostolic Delegate—represents the Pope at Beîrût with this title. In this portion of the country there

[1] Meletius also gathered together the scattered congregation which had been driven from Kerak by Ibrahim Pasha.

are five Latin mission stations, under the Latin Patriarch of Jerusalem, which are now being worked mainly by native priests.[1] This mission was founded in 1874.

In 1886, Mohammed-el-Mujêly, the Moab Sheikh, gave a written permission for English mission work to be undertaken in Kerak. Mr. Lethaby, first of all, bravely faced the difficulties and hardships of the place, and in 1894 the Church Missionary Society became responsible for this mission in connection with Es-Salt.

At present there are only three Jews in Kerak. Previous to 1893 there were none. The Mutasarif has lately been asked to allow a Jewish colony to be established at el-Lejjûn (five hours east), but this request was not granted. The city is well supplied with water. There is no hotel, and up to this date the few European visitors have been accommodated at the Greek and Latin and C.M.S. mission houses. As several residents in Jerusalem, and tourists, are contemplating the tour through Moab and Edom, the opening of hotels at Mâdeba and Kerak would probably be remunerative. The Greek shopkeepers are hospitable, and the Damascus merchants, who visit Kerak twice a year, have no reason to complain of their reception.

The objects of interest include a Roman bath, with mosaic pavement; two ancient churches, one dedicated to St. George, which is venerated by Greeks and Moslems; the other has on the outside a long Arabic inscription which was translated in March, 1895, by Dr. F. J. Bliss.[2] The Mutasarif is willing to give visitors permission to visit the castle with its crypt chapel, and it is necessary to make all local arrangements for visiting Petra through him, as soldiers are required. In order that there may be no disappointment about proceeding south to Wâdy Musa, an order from Constantinople, or at least a letter from the British or American consuls in Jerusalem, is recommended.

Murray's "Handbook for Travellers in Syria and Palestine" (1892) assigns four days for the Itinerary from Kerak to Petra. The journey is now accomplished, with Circassian soldiers, in two and a half days:—

Miles.		H.	M.
	First Day.		
20	Wâdy el Ahsa	5	0
20	Tâfileh	6	0
	Second Day.		
33	Shôbek	9	15
	Third Day.		
20	Eljy-Wâdy Musa	5	0
93		25	15

[1] Es-Salt; Fheis (about two hours south-east of Salt); Rummanêh, north-east of Salt; Mâdeba; Kerak.

[2] *Quarterly Statement*, July, 1895, p. 220.

This Schedule includes rest for lunch on the first and second days only.

I was disappointed at not being able to procure several ancient coins in Moab. As a matter of fact, only one coin was forthcoming in Moab, and another in Edom,[1] during a tour of 25 days. The Arab schoolmaster of the Greek School, and his boys, were actively interested, but the specimens brought to me generally bore Arab inscriptions. The only coin of any interest was the well-known State umbrella, and three ears of barley, springing from one stalk, year 6 (A.D. 43), of Herod Agrippa I. The natives now dispose of coins to the Turkish soldiers, who sell them to Jews in Damascus and Jerusalem. They eventually find markets in Hamburg and the United States.

About one hour's ride from Kerak (in Wâdy el-Yabis) are interesting hermit cells, which, in 1884, were reoccupied by four Orthodox "Religious." One came from Jerusalem, two from Mar Saba, and one from the Convent of St. George, Wâdy el Kelt (Brook Cherith).

All have been driven back again to their parent convents, owing to the robberies and cruelties of the Kerâkî. One of their number, the Caloyer Onuphrios, is now an occupant of the Convent of St. Constantine, Jerusalem.

The military authorities at the castle are digging bravely at excavations, but apparently with no working plans. May we not hope that the Palestine Exploration Fund will obtain a Firman from Constantinople for a thorough investigation of the Castles of Kerak and Shôbek, and the Rock City of Edom?

JERUSALEM, *July 13th*, 1896.

TWO ROMAN MILESTONES AT WADY MÔJIB (RIVER ARNON).

By Rev. THEODORE E. DOWLING.

WHEN in Kerak last May I was told that the Mutasarif had lately ordered soldiers to turn over the prostrate milestones in the southern valley of the Môjib, when they were repairing the precipitous descent. And I was also informed that the inscriptions had not been copied. So I went prepared with a note-book. After consulting a friend in Jerusalem about the rendering of obscure words and letters, I heard that Père Germer Durand, of Notre Dame de France, had made a walking tour last Easter-tide with several students of the Augustinian Convent (Jerusalem), and between them had succeeded in turning over three stones in the valley, copying the inscriptions, and taking a squeeze

[1] Copper Petra coin of Hadrian. "Numismatique de la Terre Sainte," M. de Saulcy, Planche XX, 1.

of a Trajan stone. So, after all, the Kerak soldiers had nothing at all to do with either one or other of these inscriptions. My copies needed revision, which has been kindly made by Père Durand; and after inserting a few of his suggested additions, two inscriptions are here reproduced with translations. Experts will no doubt be ready to correct and complete them. I ought to add that there are two milestones with the name of Trajan attached, but only one, with the longest inscription (incomplete), is given below. The other stone, of Pertinax, distant about ten minutes' ride from the previous one, is also added.

(1.) A.D. 112.

IMPCAES
DIVINERVAEFI
TRAIANVSAV
DACICVSPONT
TRIBPOTXVI
PPREDACTAI
PROVINCIA
NOVAMAFI
VSQVEAD[MARERV]
APERVITETST[RAVIT]

* * * *

ΒΑΣΙΛΕΥ

The Imperator Cæsar, son of the divine Nerva, Trajan Augustus . . . . Dacicus Pontifex Maximus in the sixteenth year of his tribunician power. . . . . Father of his country after the reduction of the province . . . . opened and paved a new road from the frontiers as far as . . . . O King.

(2.) January–March, A.D. 193.

IMPCAESAR
PHELVIVSPERTI
NAXAVGPRINCEPS
SENATVSCOSI
PONTIFMAXIMVSTRIB
POTPRETCEASARHEL
VIVSPERTINAX
PRINCEPSIVVENTVTIS

* * * *

ΝΙΚΑΝ
ΕΓΕΝΝΗΘΗC

The Imperator Cæsar Publius Helvius Pertinax Augustus Princeps Senatus Consul for the first time Pontifex Maximus endowed with tribunician power by the Roman people, and Cæsar Helvius Pertinax, Prince of the youths.

Thou wast born to conquer.

JERUSALEM, *June 29th*, 1896.

[It might be well to impress upon our friends who are so good as to forward copies of inscriptions from Palestine, that it is most important that they should always when doing so specify the size of the stone on which the inscription is cut, and the size of the letters; and also whether the stone is whole or broken, and if the latter, what portions are gone. Conjectural emendations, or "suggested additions" should never be "inserted" unless most carefully and exactly marked; otherwise the most valuable inscriptions are rendered absolutely worthless. For instance, at the crucial point in the first of the above inscriptions, which should give us its exact date, we are unfortunately left in doubt by a non-observance of the above precaution. It would appear that some words, in some of the lines at any rate, on the right-hand side of this inscription are either broken off from the stone or rendered illegible, *e.g.*, the fourth line would at least appear incomplete, and we are thus led to ask, Is the all-important fifth line incomplete also? The XVIth year of Trajan's tribunician power was 112 A.D. By reference to the April *Quarterly Statement*, pp. 134, 135, it will be seen that in that year he had not left Rome for the East. It was in the autumn of 113 A.D. that he began his Eastern campaign. The term, therefore, "the province having been reduced," would apparently belong more fitly to a later year. Hence it is of cardinal importance to know whether XVI is the real ending of the line, or whether the stone is there broken, so that the reading may have possibly been XVII or XVIII. Of course XVI may be the correct reading; then this new road was made in 112 A.D. "opened," cut through the mountains, as a preliminary to the Emperor taking the field with his legions in the ensuing Eastern campaign. If the reading was XVI, then the rest of the date, if given in full, would have been IMP. VI. COS. VI.

It is a pity that the other Trajan inscription was not sent; the date might have come out clear from that.

As regards the second inscription sent, it would appear that the lines in the original are of unequal length, but here, again, we are in doubt, as we do not know how far "suggested additions" have been "inserted." Pertinax was elected Emperor, January 1st, A.D. 193, and was murdered on March 28th of the same year, being then in the sixty-seventh year of his age. His son, to whom the title Augustus was never given, is here associated with him in this inscription. Pertinax was Consul for the first time 179 A.D., and the second time 192 A.D., on the last day of which

year the Emperor Commodus was murdered; hence it is possible that there was another stroke in the fourth line, and that COS II is the right reading. This stone apparently, to judge by the Greek words chiselled below, was set up by some legionary who had formerly served under Pertinax either in Syria in the suppression of the revolt of Cassius, or else in his victorious campaigns on the Rhine 172 A.D., in the reign of Marcus Aurelius, at whose death he was Governor of Syria. The inscription was cut at the glad moment when the good news of his old leader's election at Rome had reached Kerak, although perhaps the Emperor was then already lying dead.

The end of Gibbons's fourth chapter contains a sketch of Pertinax's popular career with the legions.

It would be a great thing if the Reference Library at Jerusalem would obtain a copy of the "Corpus Inscriptionum Latinarum," of the Berlin Academy, compiled by Mommsen and his fellow labourers, or at any rate of those portions of the work that relate to the East.—J.N.D.]

THE DATE OF THE EXODUS.

By W. M. Flinders Petrie, D.C.L.

As two writers under the above title have referred to some statements that concern my work, I wish to give a few explanations, though I hope that I may avoid dealing with so thorny a subject as the title indicates.

P. 247. Captain Haynes remarks that "Lower Egypt appears to us as the very hotch-potch of races"; but—if I may say so—that seems to have been the case of every country where an active civilisation prevailed, and Upper Egypt was probably as mixed as Lower Egypt. The race in the IV Dynasty was compounded of three or four peoples; the New Race of the VII–X Dynasty was quite different; and in one tomb at Thebes of the XVIII Dynasty I have found skulls of the most extreme shapes, some the very opposite to those of the earlier residents there. So the mixture in Lower Egypt, though true enough, is not peculiar to that part. Regarding the period of the Judges, Captain Haynes relies entirely on a statement, which is probably of late origin, of 480 years between the Exodus and the Temple. I will not attempt to enter on so complex a question here, but only say that as there is a far shorter chronology—about 200 years—resulting from statements in the Old Testament I could not pass such an assumption as this in silence, which might imply tacit consent.

P. 248. The note about corrections in the chronology which I have adopted, is based upon the March number of the "Proc. Soc. Bib. Arch." It is unfortunate that the writer should not have apparently seen the April number before his paper appears in July, or at least have waited to

hear what had to be said. In the next number (April) appeared a memorandum from me pointing out that all the supposed corrections are based on points which have been perfectly familiar for 60 years to those who have studied the matter. It is hard that a shallow mistake such as that about these "corrections" should at once pass on as a basis for two other papers, when there is nothing to correct in that manner.

P. 251 and note 254. Here it is assumed that the Egyptian power over the Syrians rested on the command of chariots. On the contrary, the Syrians fought in chariots just as much as the Egyptians, and had their chariots far more elaborate and decorated. In the very first battle of Thothmes III he took 924 chariots from the Syrians. The home of the horse and the chariot was in Syria rather than Egypt.

P. 255. It would be more satisfactory if Colonel Conder were to avoid the use of quotation marks when he makes extensive alterations in a passage to which he refers. In the six lines of mine which he has marked as a quotation, there are nine words altered. One matter is serious in it, as he gives *Ruten* for Syria when the word is *Kharu*.

P. 256. It seems bold to state that "the Bible discountenances" the idea of any Israelites being out of Egypt before the Exodus, when Ephraim mourned for his cattle-lifting sons who were slain at Gath (1 Chron. vii, 21).

The statement that "Brugsch's dates rest on the coincidence of the vague Egyptian and Greek year, according to the Rosetta stone . . . . . Mahler's dates rest on a statement by Censorinus," seems a strange confusion. Brugsch, Mahler, and every one else rest on the statements of the Rosetta stone and Censorinus (beside many other authorities) for the starting point of the relation of Egyptian and Greek years in Græco-Roman times. The real question is the dating before that, backwards from this fixed point. For this Brugsch trusts to the very vague use of generations, assumed at 33 years, and assumed equal to the reigns ; such a system may give a rough approximation, but is utterly rotten in details. Mahler, on the other hand, takes exact statements of astronomical feasts which fix dates to within three or four years. He has had before him all the assumed corrections which have been proposed to be applied to his results ; and, as a thoroughly trained astronomer, such considerations are the elements of his profession. It is not competent for any one to apply "corrections" without going through all his work in detail ; one might as well set about correcting the "Nautical Almanac."

P. 257. The statements about the date of Burnaburias require revision. His date quoted at 1450 B.C. is only roughly correct. Sayce puts him at 1430 to 1410 B.C. as an approximation, and Amenhotep IV (by Mahler's basis of chronology, *see* Petrie, "History of Egypt," ii, 29) reigned 1383 to 1365 B.C. As Amenhotep IV was offered the daughter of Burnaburias in marriage, it is clear that the Egyptian was the younger. The vague objection, therefore, to Mahler's chronology as being "a century" in error here, comes down to less than 30 years, an amount that no Assyriologist would fight over.

P. 257. It is stated that I do not give the grounds for saying that Sety I had restored the name of Amen on the Israel tablet. As I had already quoted the whole inscription, "the restoration of the monuments was made by *maat. men. ra* (Sety) for his father, Amen," I do not see what more proof or grounds for this can be wanted.

It is a pity to have to spend time and print on a quantity of small corrections like these; but the example of the paper on chronology in March, which is at once adopted by two people without waiting to see an answer in April, shows that one cannot be too quick in clearing away mistakes which may easily pass on into other work elsewhere.

SERAPIS.

By Ebenezer Davis, Esq.

In the July issue of the *Quarterly Statement*, p. 258, there is a note by Colonel Conder relative to the papers written by Canon Dalton and myself on the discovery by Dr. Bliss of a votive inscription at Bab Neby Daûd, Jerusalem, first announced in *Quarterly Statement*, January, 1895.

It is now some years since I first became acquainted with Colonel Conder and his writings, during which time I, with many others, have been indebted to his researches for large accessions to our knowledge of Oriental geography and antiquities. I regard him as a very valuable writer on any subject that he may consider worthy of treatment, he being a hard student of facts rather than of opinions, earnest and keen in the quest of truth, and very successful. I regret, therefore, that I am unable to accept his criticism of my short article on the Jerusalem epigraph.

I certainly (in order to save space) omitted any reference to coins found at Jerusalem, or belonging to the Roman colony of Ælia Capitolina, bearing the image of Serapis. I was acquainted with one such, and have since ascertained that there are many others. The device of an old head bearing the "*modius*" and facing the right, occurs on reverses of Antoninus Pius, M. Aurelius, Caracalla, Diadumenianus, and Elagabalus. The same device (but with the head turned to the left) occurs on a reverse of the associated Emperors M. Aurelius and L. Verus. I have not been able to come across a representation of Serapis accompanied by Cerberus. In Taylor's "Calmet," and in Madden's "Jewish Coins," there are illustrations of coins of Ælia Capitolina having a reverse device of Bacchus with the thyrsus and leopard. This last is the only animal figure occurring on these coins; it, however, has but one head, while the "infernal dog" to which Colonel Conder refers is said by the poets to have had at least three heads. According to Hesiod he had 50.

Colonel Conder does not think that there was any connection between

Apis and Serapis. While respecting his opinion, I must point out that we can only safely refer to ancient authorities. Apollodorus writing, I believe, in the second century B.C., directly connects the two : "Serapis was the name given to Apis after his death and deification." Plutarch in his treatise, "De Iside et Osiride," makes the remarkable statement that "the soul of Osiris passed on his death into the body of Apis, and as often as the sacred animal died, passed into the body of its successor." I cannot but think that we are safer in regarding the name "Serapis" as merely a shortened form of the combined names of the two deities (and therefore as being of Egyptian origin) than in going out of our way to seek for an Aryan source, either of the name or the idea of this divinity.

The basis of the reverence paid by the Greeks and Romans to these Egyptian gods is to be found in that primitive solar and elemental cultus upon which the researches of Colonel Conder and other diligent inquirers have thrown so much light. The religious ideas of the most ancient races of mankind were largely influenced by the wonder and awe with which they regarded celestial phenomena. We consequently find the worship of the heavenly bodies extensively prevalent among peoples widely separated in race, language, and geographical position. However various the name and form they gave to the principal object of their religious regard, with respect to him there was primarily an absolute identity of idea, belief, and opinion. To all, the Sun was Lord, Life, and Light of the visible universe. These old worshippers beheld the sun daily rising attended by all the glories of the dawn, keeping his upward course until crowned with meridian splendour, and then again descending behind the distant mountain top, or sinking to rest in the fathomless bed of western ocean, and in each of these phases, whether as Tammuz, or Osiris, or Baal, or Zeus, or Apollo, or Phœbus, or Serapis, or Mithra, or Pluto, his votaries still acknowledged and adored the supreme. And although in later ages, poetic fancy and the mistaken opinions of the popular theology resulted in the fabrication of "gods many and lords many," yet the unprejudiced inquirer will find the true esoteric teaching of pagan religious philosophy leading him back to the primitive nature-worship.

The later mythology differed from the earlier, in a greater complexity of ideas, there being a strong tendency to adore the same deity under different aspects, and to personify mere qualities. Hence the strange mixed cults which were introduced under the Middle Roman Emperors are found to be very difficult to understand, and, indeed, seem to be quite incapable of an exact explanation. All my reading on this subject convinces me that a satisfactory exegesis of pagan religion is given only by those writers who believe that man's earliest religious ideas were derived from his daily observation of awe-inspiring cosmical phenomena. The primary notion was that the life-giving, light-bearing Sun was the greatest of natural and divine things, the one great over all. He was Baal, the Ruler of the Day, the ray-crowned King of the World.

So the ancient Egyptians regarded their deity Asra, Usar, or Osiris. In the "Book of the Dead" he is called "Osiris, King of the Gods," "Lord of the Land of Life," "Osiris, the Sun, Lord of the Horizons." The greatest Egyptian monarchs knew no higher honour than to be called "Son of the Sun," which name conveyed the idea of absolute supremacy.

Serapis, like Zeus, Jove, and Osiris, was worshipped as the supreme divinity. Besides the Jerusalem epigraph, other similar inscriptions have been found, such as: ΔΙΙ. ΗΛΙΩ. ΜΕΓΑΛΩ. CAPAΠΙΔΙ. —ΔΙΙ. ΗΛΙΩ. ΜΕΓΑΛΩ. CAPAΠΙΔΙ. ΚΑΙ. ΤΟΙC. CYNNAOIC. ΘΕΟΙC. — I.O.M. SARAPIDI. PRO. SALVTE. IMP. L. SEPT. SEVERI.—I.O.M. SERAPIDI. IDEM. MAXIMVS. and many others. That this was a solar deity, and of Egyptian origin, there cannot, I think, be any doubt, since the ancient writers and modern research tend to confirm that view.

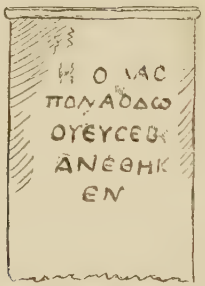
Why he was also worshipped as Pluto may be explained by the hypothesis that Serapis was identical with Osiris after the death of the latter, or, in plain words, that Serapis was really *the Sun below the horizon*. Not more certain is the sun's rising attended by the growing brightness of morning, and the splendour of noontide, than his setting succeeded by the mystery, gloom, and horror of night. The great king is overcome, yet after his apparent death he is still a king—Ruler of Hades, Lord of the Nether-gloom. He was worshipped as Esculapius, probably by those who had regard to the vivifying and health-giving power of solar light and heat. The Indian idea of "Yama, the blood-drinker," is not original. In the Funereal Ritual, Osiris is addressed as "Greatest in the Horizon! Lord of Gore, trampling in Blood! Monster! Prevailer!" This, to us, is a truly horrible idea, but easily understood by those who adored the god of the glowing dawn, and the blood-red sunset.

Facts concerning the strange and mysterious cults of the pagan world are very important to the student of comparative religion and civilisation, hence the value of such monuments as that found by Dr. Bliss at Jerusalem.

A GREEK INSCRIPTION FROM A COLUMN AT DAMASCUS.

By E. W. G. Masterman, Esq., F.R.C.S.

The following short Greek inscription I have found inscribed upon the exposed surface of a half buried hexagonal column in Damascus. The column is fixed end-up to form a seat at the side of a street fountain about 50 yards inside the "Bab Tûma" (Gate of Thomas), and the inscription is just below a sort of rim at the upper end. All the other sides of the column but one are hidden by surrounding masonry, and the greater part of the length of the column is buried deeply so that it is impossible to say whether more is inscribed on other surfaces. As I was taking a squeeze the people around told me that some years ago some "Frangees" tried to arrange for the removal of the whole column, but apparently it came to nothing through opposition of the people.



. . . . . .
'A] πολλοδώρου
εὐσεβ[αῦ]
ἀνέθηκεν

Dedication by . . .
son of Apollodorus.

Inscription on Hexagonal Column at Damascus.

NOTES ON "QUARTERLY STATEMENT," JULY, 1896.

By Lieut.-Colonel Conder, LL.D., R.E.

P. 211. It appears to be clear that the wall on Zion is of the time of the Crusaders, or built with materials hewn by them.

P. 226. The question of a few feet in the levels of the Temple, or even of 2 inches in the length of the cubit, is not of very great importance. In the "Handbook of the Bible" I have explained how a 16-inch cubit agrees with careful measurements of Syrian barleycorns, as well as with the dimensions of the Temple, and of the Galilean Synagogues. The level 2432 was ascertained under the pavement of the Dome of the

Rock in 1874. The level 2421 is on the east wall of the present platform. We can hardly suppose that the ground outside the Womens' Court was 5 feet to 7 feet higher than within.

P. 228. My plans of the Temple were prepared on a large scale in 1879, and the published plans reduced from these.

P. 250. Thothmes III does not, to my knowledge, record any expedition into the hill country of Palestine, nor is there any notice of "tribes of Jacob-el and Joseph-el," in his records. The latter is a proposed reading of the name of a town, but Maireth reads *Isphar*, and connects with Saphir (*Suâfîr*) in Philistia. Jacob-el is equally problematical.

P. 252. The letter *Kh* is not a prefix. It is an integral radical in all cases, but the cuneiform character, not being originally intended for Semitic speech, does not clearly distinguish the letters *Cheth* and *Aïn*. The word for "Hebonites" would, I think, be *Khabiruni*, and I see no reason why the *n* should be omitted.

P. 254. The Philistines were connected with Mitzraim, or Egypt, according to the Bible; but in the time of the Eighteenth Dynasty the names of their chiefs are Semitic, as are those of the towns of Philistia.

P. 260. The identification of the land of Suethe, given by Rey, which I have followed, agrees well with the account of the Crusader's frontiers at Baniâs, and at *el'Aal* in the Jaulân.

P. 260. The existence of the sun-god Aumo could certainly not be derived from the texts given by Waddington. I found the name in ancient Arab inscriptions, but cannot for the moment give the reference, not having the required note-book with me. There is, however, I think, no doubt of the fact.

P. 204. In looking through the MS. of the new translation of Boha ed Dîn, I find that several interesting additions to the topography will result from the Palestine Exploration Fund's surveys—such as the sites of *Kuseir*, *Sennabra*, &c. The most curious case is that of *Fakhwâneh*, spoken of as near the Jordan bridge. Evidently the region called *Kahwâneh* is intended, but the second dot was placed a little too far to the left in the MS.

P. 213. "Dr. Guthrie" is apparently a printer's error for Dr. Güthe.

BIBLE COINS.

By Lieut.-Colonel Alfred Porcelli, R.E.

The *Quarterly Statement* for April, 1896, contains a description of certain coins found in Palestine. On p. 156 there is portrayed a coin which is attributed to Herod I. On the reverse of this coin appears "the monogram ."

If this coin really is Herod's, why does it contain a symbol which, on the one hand, is a corrupt version of the adopted by Constantine, circa A.D. 312, as a so-called *Christian* emblem, and, on the other hand, bears a suspicious resemblance to the Egyptian "Sign of Life," or Crux ansata, ?

It is singular that on the obverse of this same coin there is a *Star*. Can this be in allusion to Numbers xxiv, 17 : "There shall arise a Star out of Jacob" ? If so, the adoption of the star, and also of a Pagan circle-surmounted Tau, or Crux ansata, would appear to indicate a desire on the part of Herod to pose as the protector of both Israelites and Pagans. That a coin of Herod's should contain a nominally *Christian* symbol is out of the question, of course. The early Christians in Egypt unfortunately adopted the Crux ansata because of its resemblance to the popular idea of "the accursed tree," or possibly to the initial letter of Christ ;[1] and were doubtless actuated in their choice by the fear of persecution. But why a Jewish King, who died 25 years *before* Christ's crucifixion, should adopt either the Pagan Tau or the Egyptian "Sign of Life," is not apparent, unless, as suggested above, he was a semi-Pagan.

Can any one explain the meaning and presence of this curious "monogram" ? What is it a "monogram" of ?

OOTACAMUND, INDIA,
June 19*th*, 1896.

THE VALLEY GATE AND THE DUNG GATE.

By THEODORE F. WRIGHT.

IN the *Statement* of April, 1896, I offered the suggestion that the excavations already made by Dr. Bliss show such gates as verify the statements of Nehemiah in his account of his night ride. At the same time, it seemed well to refer to the conjectural assignments of position made by writers who had not had the help of these discoveries. One of these geographers, the Rev. George St. Clair, replied, in the *Statement* for July, that his error is not proven, and he said :—

"The statement made twice over by Dr. Wright, 'That the Dung Gate is said in Neh. iii, 13, to have been about 1,000 cubits east of the Valley Gate,' has no foundation in Scripture, either in the English version or the Hebrew text."

This raises questions as to the distance of 1,000 cubits and as to the eastward direction. Perhaps I should not have said "about," for the

[1] Tertullian, "De Corona Militis," c. iii, vol. II, p. 80; Wilkinson, vol. V, pp. 283–284.

statement in Neh. iii, 13, is definite ; but I did not suppose that anyone would hold the narrative to such exactness of measurement as Mr. St. Clair requires. Suppose, when all is finally plain, that the distance should vary a few cubits from 1,000, would this surprise anyone ? My measurement, made, of course, loosely by the aid of the plans so far published and of other maps, found the distance between what were assumed to be the two gates just about this distance ; but I did not understand that exact measurement must either be attributed to Nehemiah or be required of one who was finding great help from Dr. Bliss's reports.

In regard to the direction being east, I cannot see that it was wrong so to interpret Nehemiah's course on the night ride or his order of mention of the gates as they were repaired. The text does not say "east," but it goes from one point to another point. Now as to that direction being eastward, I do not see how a doubt can exist. Verse 1 of chapter iii says that the men began at the Sheep Gate. That was certainly in the eastern wall. Verse 3 mentions the Fish Gate, and verse 6 the Old Gate. Are we now on the northerly or on the southerly side of the city ? All authorities, I believe, agree that the narrative is leading us from the east along the north wall. Verse 11 speaks of the tower of the furnaces, commonly placed to the westward. We then hear of the Valley Gate in verse 13, and the Valley of Hinnom rather than the Valley of the Kedron is brought to mind. Especially is this confirmed by the immediate mention of the Dung Gate as 1,000 cubits away. Can we place the Dung Gate with good reason anywhere but southward, where the natural drainage of the city went, and where Tophet has been from the first mention of such a place ? Thus the distance would place the Valley Gate south-westward from the city and the Dung Gate southward. Verse 15 tells of "the Gate of the Fountain and the wall of the Pool of Siloah by the king's garden, and the stairs that go down from the city of David." Here and later one must not dogmatise, for the places thicken, but there is no room for doubt that we are now at the south-eastern portion of Nehemiah's course, for Siloam and the king's garden were just there. The hill Ophel is mentioned in verse 26, and, finally, in verse 32, we have the Sheep Gate again.

Thus the description unquestionably goes quite round the walls, and the only question is, Does it go round by the north or the south ? If we try it in the latter way, we shall put everything that is well known in a position opposite to that which is given to it in the Scriptures. If we put it in the usual way, going from east to west by the north, no difficulties whatever arise. I, therefore, understand that the text bids us look from the Valley Gate about 1,000 cubits eastward for the Dung Gate, and I can scarcely imagine that plain inferences from Dr. Bliss's findings will be reversed by his later work or by that of any other.

Mr. St. Clair will, I hope, pardon us if we begin our geographical figuring from the excavations rather than from his "matured opinion published in 1891," but, of course, only tentatively.

CAMBRIDGE, MASS., U.S.A.

WHERE ARE THE SACRED VESSELS OF THE TEMPLE?

By Professor Edward Hull, F.R.S.

Uncertainty is often expressed regarding the fate of the holy vessels of the Temple of Jerusalem carried away by Titus to Rome and displayed in his triumph. A representation of this triumph still remains deeply engraven inside the Arch of Titus; perhaps the most interesting of all the surviving monuments of the Eternal City. But with Gibbon's great work in our hands no such uncertainty ought to exist. Instead of being buried under the bed of the Tyber, as is sometimes suggested, it would appear that they may be actually within the walls of the Holy City itself—restored, if not to the Temple, to the Christian Church close to its former site. Their wanderings have been sufficiently remarkable. From the account of Gibbon, it appears that after the capture and sack of Rome by the Vandals under Genseric, A.D. 455, the holy instruments of the Jewish worship, the gold table, and the golden candlestick with seven branches were amongst the spoils carried away to his capital at Carthage by the victorious Vandal on his return to Africa.[1] But this is not the final account we have of them. On the capture of Carthage by Belisarius, the General of Justinian, these sacred vessels are recaptured from the Vandals and used to grace the triumph of Belisarius at Constantinople, A.D. 534;[2] and, finally, after their long peregrination, were respectfully deposited in the Christian Church of Jerusalem by the Emperor of the East himself. This was, doubtless, the so-called "Church of the Holy Sepulchre," which remains at the present day in possession of four Christian sects, the Greek, Latin, Coptic, and Armenian. *There,* if anywhere, these sacred emblems of Jewish worship are to be found; what a crowning triumph would it be to the labours of the Palestine Exploration Society to be the agents for producing them, after so many centuries, to the view of an astonished world! Yet a vague suspicion arises whether upon the sack of Jerusalem by Chosroes II, in A.D. 615, the sacred vessels may not have fallen into the hands of this victorious despot. If such were the case, any attempt to trace their history further would be fruitless indeed.

26*th August*, 1896.

[1] "Decline and Fall of the Roman Empire," vol. vi, chap. 36. Gibbon refers to the learned and accurate treatise of Hadrian Reland, "De Spoliis Templi Hierosolymitani," 1716.

[2] *Ibid.*, vol. vii, chap. 41.

A VISIT TO THE EXCAVATIONS AT JERUSALEM.

By the Rev. H. Porter,

Professor of History in the Syrian Protestant College, Beirût.

A recent visit to Jerusalem gave me an opportunity to examine the excavations carried on for the Fund by Dr. Bliss and Mr. Dickie. I have long desired to do this, but did not find it convenient until this month. My long acquaintance with Dr. Bliss and his work in various lines gave me an additional impulse to make the visit, and my own interest in the archæology of this country led me to seek a fuller acquaintance with the work.

I arrived at Jerusalem on Tuesday the 21st inst., and was most cordially received by Dr. Bliss and Mr. Dickie, who gave me every facility for examining the work already done, and following up that in progress. During the week I spent there I was daily in the excavations, accompanying Dr. Bliss as he made his rounds to the different shafts and tunnels, spending a good share of each day underground. I was enabled to get a much better insight into the work, the methods employed, and the difficulties to be overcome, than I had previously obtained from reading the reports, and I appreciated more fully the puzzling questions an excavator meets with underground, and the importance of deciding these questions rightly, in order to obtain the maximum of results with a minimum of expense. Dr. Bliss showed his constant anxiety to economise for the Fund, and spend no labour where it would not be profitable, and he constantly watched every clue that might lead to a right decision.

While I was there, work was being carried on in several different places, some on the hill within the Augustinian property, and others in the Tyropean Valley below. It required much travelling up and down the steep hill to visit the various gangs of workmen, give directions, and keep everything fully in hand. The sun that beats down into the Tyropean Valley in August is merciless, and the odours that rise from the open drain that pours its fœtid stream down from the city are most pungent, especially when reinforced by the carcasses of mules and donkeys which find there a resting-place. It is a relief to escape from such an atmosphere, and burrow in the shafts and tunnels. Those which were being pushed in the lower part of the valley were most interesting, and were yielding valuable results. The depth of *debris* there, one shaft showing 65 feet, indicates repeated destruction in this portion of the ancient city, and excavation in this quarter promises the richest results. Wherever a shaft may be sunk, or a tunnel driven, ruins of walls, arches, floors, and paved ways are met with. It would be worth while to explore the whole valley, if funds could be found for it, so rich it seems to be in the remains of old Jerusalem. While there, I watched the uncovering of the scarp and wall along the west side of the valley, the

series of steps descending along the side of it towards Siloam, a large cistern and fine arch in the valley, and the magnificent paved way on the eastern side near Ophel.

It is to be hoped that these excavations will soon determine definitely the disputed question as to the site of the City of David. Some most interesting developments I feel sure are in store for Dr. Bliss and the friends of the Fund during this coming year. The work is being pushed rapidly, and each day yields important results. The workmen are interested as well as the director, and all work together with a will. Dr. Bliss and Mr. Dickie are on the best of terms with all their people, and have the faculty of getting the most work with the least friction. Mr. Dickie is acquiring the colloquial, and is already able to make his way among the workmen without an interpreter. This *entente cordiale* between the directors of the work and their men is of the greatest advantage, and not always easy to be gained in this country without a free use of money. The men of Siloam seem to have a warm attachment and genuine regard for Dr. Bliss and Mr. Dickie. The latter's injury at the hands of ruffians aroused their sympathies, and his re-appearance among them was the occasion of sincere congratulations.

During my visit, Mr. Dickie was busy in preparing his case for the trial of his assailants. The affair seems a strange one, no sufficient motive for the attack being evident. It is to be hoped that the aggressors will receive such sentence as will deter others from similar assaults. The authorities are no doubt anxious to see justice done, and the case is a clear one.

I was glad to find the health of Dr. Bliss and Mr. Dickie so good. The climate is rather trying, and the work exacting, but Dr. Bliss says it agrees with him far better than his two months of enforced idleness. His next report will be awaited with interest.

Syrian Protestant College,
Beirût, Syria, *August 19th*, 1896.

ARMENIAN DESCRIPTION OF THE HOLY PLACES IN THE SEVENTH CENTURY.

Translated from the Russian by R. Nisbet Bain, Esq.

The fragment here communicated, presenting a short description of the Holy Places in Palestine, attracts our attention by its undoubtedly great antiquity, although it appears impossible to give an exact or even approximate date of its first appearance in writing. Moses Kagankatvatsi, the author of the "History of Agvan," translated into the Russian tongue by Professor K. P. Patkanov,[1] in which the description

[1] "History of Agvan" of Moses Kagankatvatsi, a writer of the tenth century. Translated from the Armenian. Sb., 1051.

in question is embodied, lived undoubtedly at the end of the tenth century ; but, as the labours of specialists have conclusively proved, only the last (*i.e.*, the third) part of his "History of Agvan,"[1] should be considered his own independent work, the first two parts being nothing more nor less than literal borrowing from other sources dating back to the middle of the seventh century. The chapter so interesting to us, containing a description of the Holy Places, occurs at the very end of the second part, and consequently did not originate in the tenth but rather in the seventh century. After a general description of the Holy Places comes an enumeration of the monasteries built at Jerusalem by the Agvans, it takes up the 52nd and following chapter of the second book, and is obviously connected with the much fuller enumeration of the 70 Armenian monasteries in Jerusalem, published recently in a French translation from the Armenian. Compare : Archives de l'orient latin, t. II, p. 394 : Deux descriptions arméniennes des lieux saints de Palestine : 1. Anastase d'Armenie (vii siècle). "Les LXX couvents arméniens de Jérusalem." The name Anastasius, standing also in chapter 52 of the second book of the Agvan history, has induced the learned Armenian scholar L. Alishan to suppose that the enumeration of the Armenian monasteries, translated by him, really belongs to the seventh century. It is also natural to suppose that the preceding 51st chapter likewise belongs to the same period.

Chapter 51.[2] *Number and situation of the Churches built in Holy Jerusalem.*

Thou wilt find here the faithful account of an eye-witness.

The rock-hewn tomb (grave) of the life-giving Jesus is $1\frac{1}{2}$ circuits of the arms (= $1\frac{1}{2}$ fathoms) beyond the middle cupola of the holy life-giving sepulchre. In the colonnaded cupola-shaped[3] church (which is built) 100 ells in height and 100 ells in breadth, on this and that side (are found) [or stand] 12 columns below and 12 columns above. There in the upper division (in the chamber) are the lance, sponge, and cup of Christ, wrought in gold. In the chief church (Katolike) called Maturn (*μαρτυριον*), but also Invention of the Cross, 20 ells distant from the Church of the Resurrection, are disposed in line, 65[4] columns above and below.

The Church of Holy Golgotha, called also the tomb of Adam, (is) 10 steps distant from the Resurrection ; in it is an altar where Christ was crucified on the ladder (scala).

The Church of Holy Sion, one stadium (asparéz) distant from the

[1] Armenia.

[2] Professor K. P. Patkanov at our request has examined his former version of this chapter and collated it with the original MSS.

[3] The words "colonnaded cupola-shaped" are not found in all MSS., but only in the Moscow edition of the Armenian original.

[4] Variant., 75.

Resurrection, 100 ells in length and 70 in breadth, has 80[1] vaulted connected columns. In it there is no upper division (room, gallery), and only a wooden tarb (trellis-work), and on the tarb hangs the crown of thorns which was laid on the head of the Life-giver. To the right of the church the chamber of the mysteries, and a wooden cupola in which is imaged the sacred supper of the Saviour. In it an altar at which the liturgy is celebrated. In the upper division of Sion there is no chamber (gallery ?).

To the right[2] of Sion is the Palace of Pilate, called Kappata, and the stone on which Christ stood before Pilate. On it are seen his footprints to this day. Lower a taz (washing-basin) in which he washed the feet of his disciples. To the left of Sion is the dungeon where they shut Christ up. There is an altar, and the liturgy is celebrated.

Behind the town, in that place where the Hebrews keep the tomb of the Holy Virgin, and do not suffer her to be buried, is a cupola on four marble columns covered with copper crosses. Thence 250 stone steps lead down to the tomb (place of burial) of the Virgin, in the Vale of Gethsemane, and thence to the Mount of Olives, from whence Christ ascended, 800 steps.

On the place of the Ascension is erected, after the likeness of the Church of the Resurrection, a very beautiful cupola-shaped building, 100 ells in width. Thence are visible the River Jordan, Mount Hor, and many districts.

Bethlehem is distant from the Resurrection westwards 220 stadia. The church is 200 ells in length and 100 in breadth, with 90 marble columns and stone vaults. In it is a two-fold cavern which Abraham bought for a burial place. Below the altar (beneath the altar) the holy cave and manger where (also) is an altar, and liturgy (*i.e.*, divine service) is celebrated there. To the right of the church is a chapel (maturn, *μαρτυριον*) in which are preserved the relics of the children slain by Herod.

Thence eastwards, on the Jordan side, 3 stadia from Bethlehem, is a grove, and in it two churches in which the liturgy is celebrated.

The River Jordan, in which the Saviour was baptised, is 7[3] stadia to the east from Jerusalem. There is built a stone church in the likeness of a cross, 80 ells in length and 80 in breadth, with three altars of the mysteries, on which the liturgy is accomplished. The Mount of Olives is to the east of Jerusalem.

[This description of the holy places at Jerusalem was probably written by an Armenian pilgrim (Anastasius ?) who visited Jerusalem about

[1] Variant., 90.

[2] The expressions "to the right of Sion," and, lower down, "to the left of," mean, of course, on the right side of Sion, on the left side, &c. Not being acquainted with the language of the original, we dare not make any alteration in the translation thereof.

[3] The cipher 7 is clearly a mistake.

A.D. 660. It is, therefore, the earliest account that we have of the Churches of the Resurrection, of the Cross, and of Golgotha, as restored by Modestus after the Persian invasion. Though very brief, and not always clear, the record is of much interest.

We learn, for instance, that the "colonnaded, cupola-shaped church," that is, the Church of the Resurrection, or of the Holy Sepulchre, had a clerestory in which were kept the lance, the sponge, and the cup of Christ. The 12 columns of the church may be compared with the 12 columns of the "Hemisphere" in Constantine's original church, and suggests the idea that the "Hemisphere" may have been the domed Church of the Anastasis. Arculf places the "lance" in the porch of the church, and the "sponge and the cup" in an exedra between Golgotha and the Basilica. The "cup" is said by Antoninus to have been of onyx, whilst the later one was of wrought gold. The Martyrium, Basilica, or Church of the Cross is said to have had 65, or, according to a variant, 75 columns, and a clerestory. The tomb of Adam is shown at Golgotha, in accordance with the tradition mentioned by Origen that Christ was buried beneath Calvary.

The Church of Holy Sion is said to have been only one stadium from the Anastasis, and to have had on its right (south) the Palace of Pilate, and on its left (north) the Prison of Christ. This possibly indicates that the original Church of Sion, "the mother of all churches," was not far from the present Armenian Church of St. James.

The notices of the Church of the Ascension as having been built on the model of the Anastasis, and of the cruciform church at the spot where Christ was baptised in Jordan, are also interesting. –C. W. W.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT JERUSALEM IN THE YEAR 1893.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest, as usual, are in the winter, and the lowest in the summer months; the maximum for the year was 27·668 inches, in November, and the next in order, 27·612 inches, in March. The highest reading in the preceding 32 years, viz., 1861 to 1892 inclusive, was 27·816 inches, in December, 1879.

In column 2 the lowest reading in each month is shown; the minimum for the year was 27·026 inches, in December, and the next in order, 27·060 inches, in March. The lowest in the preceding 32 years was 26·972 inches, in April, 1863, and February, 1865.

The range of readings in the year was 0·642 inch. The largest range in the preceding 32 years was 0·742 inch, in 1876; and the smallest, 0·491 inch, in 1883.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest, 0·129 inch, was in July, the next in order, 0·137 inch, in September; and the largest, 0·557 inch, in December, and the next in order, 0·552 inch, in March. The mean monthly range for the year was 0·319 inch. The mean for the preceding 32 years was 0·309 inch.

The numbers in the 4th column show the mean monthly pressure of the atmosphere; the highest was 27·515 inches, in November, and the next in order, 27·434 inches, in June; the lowest was 27·239 inches, in July, and the next in order, 27·298 inches, in January. The mean yearly pressure was 27·361 inches. The highest mean yearly pressure in the preceding 32 years was 27·443 inches, in 1861, and the lowest, 27·358 inches, in 1892. The mean for the 32 years was 27·391 inches.

The temperature of the air reached 90° on May 27th, which was the only day in May of a temperature so high as 90° (in the preceding 11 years, the earliest day in the year on which the temperature was 90° was March 25th in the year 1888); in June it reached or exceeded 90° on one day; in July, 17 days; in August, 7 days; and in September, 4 days, the 30th being the last day in the year of a temperature as high as 90°. In the preceding 11 years the latest day in the year the temperature reached 90° was October 23rd in the year 1887. The temperature reached or exceeded 90° on 30 days during the year. In the year 1892 the number of days of this high temperature was 23, and in 1887 was 73; the average of the 11 years was 41. The highest temperature in the year was 104°·5 on July 19th. The highest in the preceding 11 years, 1882 to 1892, was 106°, in July, 1888.

The temperature of the air was as low as 27°·5 on December 23rd, and on 4 other nights in this month was at or below 32°, and as low or below

(*To face p.* 350.)

MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Jerusalem, by JOSEPH GAMEL, in a garden, well within the city, about 2,500 feet above the level of the Mediterranean Sea, open on all sides.
Latitude, 31° 46′ 40″ N., Longitude, 35° 13′ 30″ E.

Months.	Pressure of atmosphere in month—Corrected to 32° Fahrenheit.				Temperature of the air in month at 9 a.m.							Mean reading at 9 a.m.			Vapour at 9 a.m.			Degree of humidity.	Weight of a cubic foot of air.	Wind. Relative proportions of.								Mean amount of cloud.	Rain.	
	Highest.	Lowest.	Range.	Mean.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		Number of days on which it fell.	Amount collected.
1893.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	in.	grs.	grs.	°	grs.											in.
January	27·538	27·102	0·436	27·298	65·5	30·0	35·5	52·4	40·6	11·8	46·5	48·0	44·5	40·7	·253	2·9	0·9	76	498	0	0	0	5	2	14	4	6	5·3	12	7·54
February	27·569	27·279	0·290	27·347	68·8	28·0	40·8	53·0	39·6	13·4	46·3	48·5	44·0	39·1	·239	2·7	1·1	73	499	1	3	1	1	1	7	6	8	4·1	9	2·12
March	27·612	27·060	0·552	27·330	77·0	31·0	46·0	60·5	41·7	18·8	51·1	51·3	46·5	41·5	·263	3·0	1·3	70	495	0	3	3	1	1	10	5	8	6·4	15	12·35
April	27·531	27·162	0·369	27·378	78·0	40·0	38·0	64·9	46·7	18·2	55·8	59·1	51·4	44·6	·294	3·3	2·3	59	489	1	2	5	0	0	10	3	9	5·3	5	0·93
May	27·449	27·093	0·356	27·341	90·8	46·0	44·8	77·0	55·4	21·6	66·2	70·9	59·6	51·0	·374	4·1	4·2	49	477	0	4	3	2	2	2	10	8	3·3	1	0·06
June	27·480	27·195	0·285	27·434	90·8	53·5	37·3	83·7	67·0	16·7	75·4	78·4	63·1	52·5	·396	4·3	6·1	41	472	6	2	1	0	0	1	7	12	0·7	0	0·00
July	27·296	27·167	0·129	27·239	104·5	60·0	44·5	90·8	67·9	22·9	79·3	83·8	66·9	55·6	·444	4·7	7·6	38	463	3	4	0	0	0	0	5	19	0·9	0	0·00
August	27·420	27·220	0·200	27·309	99·0	56·0	43·0	86·9	61·1	25·8	74·0	78·9	66·0	57·2	·468	5·0	5·6	47	468	3	1	0	0	0	1	9	17	0·5	0	0·00
September	27·402	27·265	0·137	27·334	95·5	52·0	43·5	83·5	57·9	25·6	70·7	76·5	64·5	56·0	·451	4·9	4·9	49	471	4	3	0	0	0	3	3	17	1·6	0	0·00
October	27·556	27·313	0·243	27·416	89·0	47·0	42·0	78·2	53·6	24·6	65·9	71·6	62·8	56·3	·451	4·9	3·5	53	477	4	1	0	2	0	1	8	15	2·7	3	0·11
November	27·668	27·393	0·275	27·515	77·0	45·0	32·0	71·2	50·2	21·0	60·7	66·5	58·9	52·8	·399	4·4	2·7	62	484	3	11	2	0	0	0	2	12	4·1	2	0·00
December	27·583	27·026	0·557	27·389	68·0	27·5	40·5	55·6	39·3	16·3	47·5	51·0	46·7	42·2	·270	3·1	1·2	72	497	0	8	6	1	1	11	2	3	6·7	15	6·83
Means	27·509	27·190	0·319	27·361	83·7	43·0	40·7	71·5	51·8	19·7	61·7	65·4	56·2	49·1	·359	4·0	3·4	58	482	sum. 25	sum. 42	sum. 21	sum. 12	sum. 7	sum. 60	sum. 64	sum. 134	3·5	sum. 62	sum. 30·54
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

40° on 12 other nights. In January it was at or below 32° on 2 nights, and as low or below 40° on 14 other nights; in February it was 28° on the 3rd, and as low or below 40° on 18 other nights; in March at or below 32° on 4 nights, and as low or below 40° on 9 other nights; and in April, on the 9th it was 40°. Thus the temperature was as low or lower than 40° on 65 nights during the year. In the year 1892 the number of nights of this low temperature was 19, and in 1886 was 97; the average for the 11 years was 49. The lowest temperature in the preceding 11 years was 26°·5, in January, 1890.

The highest temperature of the air in each month is shown in column 5; in January it was 65°·5, being 4°·9 above the mean of the 11 high day temperatures in January. The high day temperature was above its average in February, July, August, November, and December, and below in all other months. The mean for the year was 83°·7, being 0°·3 below the average of 11 years. The highest in the year was 104°·5, in July.

The lowest temperature of the air in each month is shown in column 6; in December it was 27°·5, being 6°·4 below the average of 11 years; in February it was 28°·0, being 6°·2 below the average; it was above the average in the months from May to July, and in November, and below in all other months. The mean for the year was 43°·0, being 1°·8 below the average of 11 years.

The range of temperature in each month is shown in column 7; the numbers vary from 32°·0 in November to 46°·0 in March. In the months of January, February, and December the ranges were large, owing to the high high day temperature, and the low low night temperature, being 7°·0, 8°·2, and 7°·6 respectively larger than its average. The mean range for the year was 40°·7, being 1°·5 larger than the average of 11 years.

The range of temperature in the year was 77°·0. The largest in the preceding 11 years was 76°·5, in each of the years 1884, 1886, and 1888, and the smallest, 63°·5, in 1885.

The mean of all the high day temperatures in each month is shown in column 8. The lowest was 52°·4 in January, being 1°·6 higher than the average. The highest was 90°·8, in July, being 3°·1 above the average, and the next in order 86°·9, in August. The mean for the year was 71°·5, being 0°·8 below the average of 11 years.

The mean of all the low night temperatures in each month is shown in column 9. The lowest was 39°·3, in December, being 3°·3 lower than the average. The highest was 67°·9, in July, being 3°·7 higher than the average. The mean for the year was 51°·8, or 0°·8 below the average of 11 years.

In column 10 the mean daily range of temperature in each month is shown; the smallest was 11°·8, in January, and the next in order, 13°·4, in February; the greatest was 25°·8, in August, and the next in order 25°·6, in September. The mean for the year was 19°·7, being 0°·1 greater than the average. The smallest ranges in the preceding 11 years were

9°·3, in January, 1883, and 9°·7, in December, 1890; the greatest were 33°·8, in August, 1886, and 30°·1, in the same month of 1887. The smallest mean for the year was 17°·8 in 1883, and the greatest, 24°·3, in 1886.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 11; the lowest was 46°·3, in February; and the next in order 46°·5, in January; the highest was 79°·3, in July, and the next in order 75°·4, in June. The mean for the year was 61°·7, being 0°·8 below the average of 11 years. The lowest mean temperatures in the preceding 11 years were 39°·8, in January, 1890, and 42°·0, in December, 1886; the highest were 81°·2, in August, 1890, and 81°·1, in July, 1888. The highest mean for the year was 63°·7, in 1885, and the lowest, 60°·1, in 1886.

February was the coldest month of the year, by reference to columns 5 and 6 it will be seen that the temperature was above its average by day, but greatly below by night; the nights in the months of May, June, July, and November were warm; but were cold and below the average in the remaining 8 months, being particularly so in February and December.

The numbers in column 12 are the mean readings of a dry-bulb thermometer. If those in column 12 be compared with those in column 11, it will be seen that those in column 12 are a little higher in every month, the difference of the means for the year being 3°·7. The mean difference between the mean temperature and that at 9 a.m. for the 11 years was 3°·2.

For a few days in the winter months the dry and wet-bulb thermometers read alike, or nearly so, but in the months from May to October the difference between the readings often exceeded 20°, and was as large as 29°·8 on May 14th.

In column 13 the mean monthly readings of the wet-bulb are shown; the smallest differences between these and those of the dry-bulb were 3°·5, in January, and 4°·3, in December; the largest were 16°·9, in July, and 15°·3, in June. The mean for the year was 56°·2, and that of the dry 65°·4; the mean difference was 9°·2.

The numbers in column 14 are the temperature of the dew-point, or that of the temperature at which the air would be saturated by the quantity of vapour mixed with it; the smallest differences between these numbers and those in column 12, were 7°·3, in January, and 8°·8 in December; and the largest 28°·2, in July, and 25°·9 in June. The mean temperature of the dew-point for the year was 49°·1; the mean for 11 years was 50°·1.

The numbers in column 15 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·239 inch, in February, and the largest, 0·468 inch, in August. The mean for the year was 0·359 inch; the average of 11 years was 0·374 inch.

In column 16 the weight in grains of the water in a cubic foot of air is shown; it was a little more than 2½ grains in February, and as large

as 5 grains in August. The mean for the year was 4·0 grains; the average of 11 years was 4·1 grains.

In column 17 the additional quantity of water required to saturate a cubic foot of air is shown; it was less than one grain in January, and more than 7½ grains in July. The mean for the year was 3·4 grains; the average of 11 years was 3·4 grains.

The numbers in column 18 show the degree of humidity of the air, saturation being represented by 100; the largest numbers appear in January, February, March, November, and December; and the smallest from April to October; the smallest of all was 38 in July. The mean for the year was 58; that of the 11 years was 59.

The numbers in column 19 show the weight in grains of a cubic foot of air, under its mean atmospheric pressure, temperature, and humidity. The largest number was in February, decreasing month by month to the smallest in July, then increasing to December. The mean for the year was 482 grains; that of the 11 years was 482 grains.

The most prevalent wind in January was S.W., and the least prevalent winds were N., N.E., and E.; in February the most prevalent winds were N.W., S.W., and W., and the least were N., E., S.E., and S.; in March the most prevalent were S.W. and N.W., and the least was N.; in April the most prevalent were S.W. and N.W., and the least were S.E. and S.; in May the most prevalent winds were W. and N.W., and the least was N.; in June and July the most prevalent was N.W., and the least prevalent were E., S.E., S. and S.W.; in August and September the most prevalent was N.W., and the least were E., S.E., and S.; in October the most prevalent was N.W., and the least were E. and S.; in November the most prevalent were N.E. and N.W., and the least were S.E., S., and S.W.; and in December the most prevalent winds were S.W. and N.E., and the least prevalent wind was N. The most prevalent wind for the year was N.W., which occurred on 134 times, of which 19 were in July and 17 in both August and September, and the least prevalent wind was S., which occurred on only 7 times during the year, of which 2 were in both January and May, and one in each of the months of February, March, and December.

The total number of times of each wind are shown in the last line of columns 20 to 27; those winds less in number than the average of the preceding 11 years were—

N.	by	5
E.	„	10
S.E.	„	16
S.	„	4
W.	„	3

and those winds greater in number than the average of 11 years were—

N.E.	by	4
S.W.	„	9
N.W.	„	26

The numbers in column 28 show the mean amount of cloud in each month; the month with the smallest amount was August, 0·5, and the largest December, 6·7. Of the cumulus or fine weather cloud there were only 2 instances; of the nimbus or rain cloud there were 27 instances, of which 9 were in March and 8 in December, and only 3 instances from April to November; of the cirrus there were 13 instances; of the cirro cumulus 81 instances; of the cirro stratus 16 instances; of the cumulus stratus 72 instances; and 154 instances of cloudless skies, of which 26 were in June, 24 in July, and 22 in August, and only 3 instances in December.

The largest fall of rain for the month in the year was 12·35 inches, in March, of which 3·37 inches fell on the 24th, and 3·06 inches on the 23rd. The next largest fall for the month was 7·54 inches, in January, of which 2·25 inches fell on the 26th, and 1·46 inch on the 27th. No rain fell from May 17th till October 10th, making a period of 145 consecutive days without rain. The total fall of rain for the year was 30·54 inches, being 5·31 inches above the average for 32 years, viz., 1861 to 1892. The number of days on which rain fell was 62, being 7 more than the average.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT TIBERIAS IN THE YEAR 1893.

By James Glaisher, F.R.S.

The numbers in column 1 of this table show the highest reading of the barometer in each month; the highest appear in the winter, and the lowest in the summer months; the maximum for the year was 31·220 inches, in November, and the next in order 31·084 inches, in January.

In column 2 the lowest reading in each month is shown; the minimum for the year was 30·226 inches, in August; and the next in order 30·247 inches, in July.

The range of readings in the year was 0·994 inch. The range in the morning observations was 0·875 inch, being 0·233 inch greater than the range at Jerusalem.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest was 0·291 inch, in July, and the next in order 0·357 inch, in September; the largest was 0·710 inch, in November, and the next in order 0·696 inch, in December.

The numbers in columns 4 and 5 show the mean monthly reading of the barometer at 8 a.m. and 4 p.m.; and those in column 6 the lower reading at 4 p.m. than at 8 a.m.; the smallest difference between these two readings was 0·032 inch, in January, and the next in order 0·060 inch, in December; the largest was 0·110 inch, in November, and the next

(*To face p.* 354.)

MONTHLY METEOROLOGICAL TABLE

Deduced from observations taken at Tiberias, by Mr. WISEMAN, at about 652 feet below the Mediterranean, and 30 feet above the level of the Sea of Galilee, open on all sides.
Latitude, 32° 48′ N.; Longitude, 35° 34′ E.

Months.	Pressure of atmosphere in month—corrected to 32° Fahrenheit.							Temperature of the air in month.							8 a.m.								4 p.m.								Mean amount of Cloud.	Rain.	
															Mean reading.			Vapour.					Mean reading.			Vapour.						Number of days on which it fell.	Amount collected.
	Highest.	Lowest.	Range.	Mean at 8 a.m.	Mean at 4 p.m.	Lower reading at 4 p.m. than at 8 a.m.	Mean at 8 a.m. and 4 p.m.	Highest.	Lowest.	Range.	Mean of all highest.	Mean of all lowest.	Mean daily range.	Mean.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Elastic force of vapour.	Weight in a cubic foot of air.	Additional weight required for saturation.	Degree of humidity.	Weight of a cubic foot of air.			
1893.	in.	in.	in.	in.	in.	in.	in.	°	°	°	°	°	°	°	°	°	°	in.	grs.	grs.	°	grs.	°	°	°	in.	grs.	grs.	°	grs.			in.
January	31·084	30·426	0·658	30·693	30·661	0·032	30·677	76·0	36·0	40·0	65·3	47·7	17·6	56·5	56·1	52·7	49·5	·356	4·0	1·0	79	550	60·0	55·0	50·6	·369	4·1	1·7	71	546	6·7	16	8·85
February	30·996	30·614	0·382	30·863	30·801	0·062	30·832	78·0	40·0	38·0	67·0	45·9	21·1	56·4	56·4	52·4	48·7	·345	3·9	1·2	75	553	61·7	56·0	51·1	·375	4·2	2·0	69	546	4·2	11	4·00
March	31·014	30·414	0·600	30·707	30·646	0·061	30·677	86·0	41·0	45·0	70·2	49·0	21·2	59·6	60·0	55·1	50·8	·371	4·1	1·7	72	546	64·9	58·2	52·6	·398	4·4	2·4	64	540	4·6	15	4·95
April	30·934	30·423	0·511	30·741	30·650	0·091	30·696	96·0	47·0	49·0	77·0	52·4	24·6	64·7	66·2	60·1	55·1	·435	4·8	2·2	68	540	72·4	65·6	60·5	·529	5·7	2·9	66	532	2·7	4	1·24
May	30·824	30·337	0·487	30·647	30·562	0·085	30·605	102·0	50·0	52·0	89·0	60·8	28·2	74·9	74·5	67·3	62·1	·558	6·0	3·2	65	530	83·7	69·5	60·1	·520	5·5	6·8	45	519	1·0	1	0·30
June	30·802	30·326	0·476	30·610	30·515	0·095	30·563	100·0	61·0	39·0	96·2	67·9	28·3	82·0	80·7	72·7	67·3	·654	7·1	4·1	64	522	91·6	71·9	59·7	·512	5·4	10·1	35	511	0·3	0	0·00
July	30·538	30·247	0·291	30·451	30·345	0·106	30·398	108·0	70·0	38·0	102·8	75·3	27·5	89·0	87·5	77·1	70·5	·744	7·8	6·0	57	522	95·9	76·3	64·7	·611	6·3	11·3	36	504	0·5	0	0·00
August	30·692	30·226	0·466	30·520	30·440	0·080	30·480	106·0	70·0	36·0	101·4	74·0	27·4	87·7	86·0	76·9	71·0	·759	8·0	5·2	61	515	94·2	76·8	66·2	·645	6·7	10·1	40	507	0·4	0	0·00
September	30·706	30·349	0·357	30·575	30·488	0·087	30·532	105·0	67·0	38·0	97·8	71·2	26·6	84·5	83·9	73·6	66·8	·658	7·0	5·4	56	518	92·5	73·8	62·3	·563	5·9	10·1	37	509	0·5	1	0·05
October	30·886	30·434	0·452	30·694	30·601	0·093	30·648	100·0	61·0	39·0	92·0	69·0	23·0	80·5	78·4	71·1	66·0	·640	6·9	3·6	66	526	84·9	71·8	63·2	·583	6·1	6·6	49	518	1·6	1	0·05
November	31·220	30·510	0·710	30·820	30·710	0·110	30·765	90·0	58·0	32·0	83·1	61·7	21·4	72·4	70·7	64·2	59·2	·505	5·4	2·8	67	536	78·1	67·8	60·7	·532	5·7	4·6	55	527	2·5	0	0·00
December	31·041	30·345	0·696	30·741	30·681	0·060	30·711	82·0	39·0	43·0	69·3	52·2	17·1	60·8	60·5	55·4	51·0	·374	4·2	1·7	71	536	65·5	59·1	53·9	·415	4·6	2·3	67	540	5·0	16	6·18
Means	30·895	30·388	0·507	30·672	30·592	0·080	30·632	94·1	53·3	40·8	84·3	60·6	23·7	72·4	71·7	64·9	59·8	·533	5·8	3·2	67	533	78·8	66·8	58·8	·504	5·4	5·9	53	525	2·5	sum. 65	sum. 25·62
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

in order 0·106 inch, in July. In England in January the readings at 8 a.m. and 4 p.m. are practically the same; in all other months the reading at 4 p.m. is lower than at 8 a.m.; the greatest difference is in June, 0·025 inch. The mean for the year at Tiberias was 0·08 inch, being four times greater than in England.

The numbers in the 7th column show the mean monthly pressure of the atmosphere; the highest was 30·832 inches, in February, and the next in order 30·765 inches, in November; the lowest was 30·398 inches, in July, and the next in order 30·480 inches, in August. The mean for the year was 30·632 inches.

The highest temperature of the air in each month is shown in column 8. The first day in the year the temperature reached 90° was on April 12th, and there were 3 other days in this month when the temperature reached or exceeded 90°; in May, 15 days; in June, July, August, and September it reached or exceeded 90° on every day; in October on 21 days; and in November on 2 days; thus the temperature reached or exceeded 90° on 164 days during the year. At Jerusalem the temperature did not reach 90° till May 27th, and there were only 30 days in the year on which the temperature was as high as 90°. At Tiberias the temperature was as high as 102° on May 14th; in June it reached or exceeded 100° on 2 days; in July, 25 days; in August, 24 days; in September, 8 days; and in October on one day; thus on 81 days in the year the temperature reached or exceeded 100°; at Jerusalem the temperature reached or exceeded 100° on only one day. The highest temperature in the year at Tiberias was 108°, on July 18th; at Jerusalem the highest in the year was 104°·5, on July 19th.

The lowest temperature of the air in each month is shown in column 9. The lowest in the year was 36°·0, on January 30th. The next lowest was 39°·0, on both January 31st and December 25th; and from February 1st till December 25th there was no temperature so low as 39°, the nearest approach being 40° on February 1st and 4th; thus the temperature was as low or lower than 40° on 6 nights during the year. At Jerusalem the lowest in the year was 27°·5 on December 23rd; and there were 65 nights in the year when the temperature was as low or lower than 40°.

The yearly range of temperature at Tiberias was 72°; at Jerusalem it was 77°.

The range of temperature in each month is shown in column 10; and these numbers vary from 32° in November, to 52° in May. At Jerusalem the range varied from 32° in November to 46° in March.

In column 11 the mean of all the high day temperatures in each month is shown. The lowest was 65°·3 in January, being 12°·9 higher than at Jerusalem; the next in order were 67° in February, and 69°·3 in December; the highest was 102°·8 in July, and the next in order were 101°·4 in August, and 97°·8 in September. At Jerusalem the lowest were 52°·4 in January, 53°·0 in February, and 55°·6 in December; the highest were 90°·8 in July, 86°·9 in August, and 83°·7 in June. The mean for the year at Tiberias was 84°·3; at Jerusalem it was 71°·5.

In column 12 the mean of all the low night temperatures in each month is shown; the lowest was 45°·9 in February; the next in order were 47°·7, in January, and 49° in March; the highest was 75°·3 in July; the next in order were 74°·0 in August, and 71°·2 in September. At Jerusalem the lowest were 39°·3 in December, 39°·6 in February, and 40°·6 in January; the highest were 67°·9 in July, 67°·0 in June, and 61°·1 in August. At Tiberias the yearly value was 60°·6; at Jerusalem it was 51°·8.

In column 13 the mean daily range of temperature is shown in each month; the smallest was 17°·1 in December, and the next in order were 17°·6 in January, and 21°·1 in February; the greatest was 28°·3 in June; the next in order were 28°·2 in May and 27°·5 in July. At Jerusalem the smallest were 11°·8 in January, 13°·4 in February, and 16°·3 in December; the greatest were 25°·8 in August, 25°·6 in September, and 24°·6 in October. The mean daily range for the year at Tiberias was 23°·7; at Jerusalem it was 19°·7.

The mean temperature of the air, as found from the maximum and minimum temperatures only, is shown in each month in column 14. The lowest was 56°·4 in February; the next in order were 56°·5 in January, and 59°·6 in March; the highest was 89° in July; the next in order were 87°·7 in August, and 84°·5 in September. At Jerusalem the lowest were 46°·3 in February, 46°·5 in January, and 47°·5 in December; the highest were 79°·3 in July, 75°·4 in June, and 74° in August. At both Tiberias and Jerusalem the mean temperature increased month by month from the minimum in February to the maximum in July, then decreased month by month to the end of the year. At Tiberias the yearly value was 72°·4; at Jerusalem, 61°·7.

The numbers in the 15th and 16th columns are the mean readings of a dry and wet-bulb thermometer, taken daily at 8 a.m. If those in column 15 be compared with those in column 14, it will be seen that those in column 15 were a little higher in March and April, and a little lower in all other months. The mean for the year was 71°·7, differing by 0°·7 from the mean of the year as determined by the use of the maximum and minimum thermometers; should this be the case in future years, the mean temperature may be approximately determined by a single reading of the thermometers taken daily at 8 a.m.

The numbers in the 17th column are the temperature of the dew-point, or that temperature at which the air would be saturated by the quantity of vapour mixed with it; the smallest difference between these numbers and those in column 15 was 6°·6 in January; from April to November the smallest difference was 11°·1 in April, and the largest, 17°·1, in September.

The numbers in column 18 show the elastic force of vapour, or the length of a column of mercury in inches corresponding to the pressure of vapour; the smallest was 0·345 inch, in February, and the largest, 0·759 inch, in August.

In column 19 the weight in grains of the water in a cubic foot of air

is shown ; it was less than 4 grains in February, and as large as 8 grains in August.

In column 20 the additional quantity of water required to saturate a cubic foot of air is shown ; it was as small as one grain in January, and as large as 6 grains in July.

The numbers in column 21 show the degree of humidity of the air, saturation being represented by 100 ; the largest numbers appear from December to March, and the smallest from April to November, the smallest of all was 56 in September.

The numbers in column 22 show the weight in grains of a cubic foot of air, under the mean atmospheric pressure, temperature, and humidity of the air ; the largest number was in February, decreasing to the smallest in August, and then increasing to December.

In columns 23 and 24 are the mean readings of a dry and wet-bulb thermometer taken daily at 4 p.m. By comparing the numbers in column 15 with those in column 23, the increase of temperature from 8 a.m. to 4 p.m. is shown ; in January the increase was only 3°·9, and in June it was as much as 10°·9.

In column 25 the temperature of the dew point at 4 p.m. is shown. By comparing these numbers with those in column 17, it will be seen that the temperature of the dew point in May was lower than at 8 a.m. by 2°, increasing to 7°·6 lower in June, then decreasing to 2°·8 lower in October. The numbers in this column were smaller than those in column 23 by 9°·4 in January, increasing to 31°·9 in June, then decreasing to 11°·6 in December ; the differences between the temperature of the air and that of the dew point are very much larger than those at 8 a.m. ; in June it was more than twice as large.

On 2 or 3 days in the months of May, June, July, and September at 4 p.m. the reading of the dry-bulb thermometer exceeds that of the wet by 25° or more, and the temperature of the dew point was from 39° to 49° lower than the temperature of the air, as shown by the following table :—

Month and Day.	Reading of		Temperature of the Dew Point.	Temperature of the Dew Point below Dry.
	Dry.	Wet.		
	°	°	°	°
May 25	96·0	70·0	54·7	41·3
26	98·0	71·0	55·4	42·6
June 5	99·0	68·0	50·0	49·0
9	99·0	72·0	56·3	42·7
July 19	102·0	77·0	63·0	39·0
20	103·0	77·0	62·4	40·6
Sept. 27	100·0	70·0	52·9	47·1
28	99·0	69·0	51·6	47·4
29	98·0	70·0	53·8	44·2

In column 26 the elastic force of vapour is shown, and by comparing the values with those in the same month at 8 a.m. we find that in May it was smaller at 4 p.m. by 0·038 inch, increasing to 0·142 inch smaller in June, and larger than at 8 a.m. in the months from January to April, and in November and December.

In column 27 the amount of water in a cubic foot of air is shown, and the amount was less than at 8 a.m. in the months from May to October.

In column 28 the amount of water required to saturate a cubic foot of air is shown; it was as large as 11·3 grains in July, and 10·1 grains in June, August, and September, and as small as 1·7 grain in January.

In column 29 the degree of humidity is shown, the driest months were from June to September, the value for these months varying from 35 in June to 40 in August.

In column 30 the weight of a cubic foot of air is shown, the smallest was 504 grains in July, and the largest, 546 grains, in both January and February.

In column 31 the mean amount of cloud in each month is shown; the month with the smallest amount was June, 0·3, and the largest, January, 6·7.

In column 32 are given the number of days of rain in each month; the largest was 16, in both January and December. The total number in the year was 65. At Jerusalem rain fell on 62 days.

In column 33 the monthly fall of rain is given. The heaviest fall of rain on one day in the months from January to April was 1·85 inch, on January 9th; the next in order were 1·70 inch on January 11th, 1·63 inch on January 26th, and 1·18 inch on April 22nd. No rain fell from May 18th till December 10th, excepting two slight falls of 0·05 inch on both September 17th and October 12th; neglecting these, no rain fell for 205 days; the fall of rain on December 17th was 2·35 inches, and on December 18th one inch fell. The heaviest monthly fall in the year was 8·85 inches, in January, and the next in order 6·18 inches, in December. The total fall for the year was 25·62 inches. At Jerusalem the total fall for the year was 30·54 inches.

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